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ABSTRACT

The study examined the postschool status of 100 young adults identified as learning disabled white students. Data sources were special education records, pupil permanent records, and interviews with Ss. Background and current status data were analyzed revealing a largely male, white, sample with lower-middle to upper-lower socioeconomic status. Achievement scores ranged from 55% to 66% of expected grade placement. Ss placed in LD classes seemed to evidence poorer school coping skills than did LD Ss identified but not placed. Discriminant analysis indicated that the number of retentions and the presence of others in the family with learning problems determined the discriminant function which maximally differentiated the placed and nonplaced Ss. Current status indicators showed the sample to be functioning quite well as adults, with Ss reporting moderate happiness with their employment. The great majority of Ss reported no longer experiencing a significant problem in reading, although some did. Highly positive ratings were ascribed to vocational education and LD classes by those who participated in them. Multiple regression techniques suggested that the best predictors of grades completed were presence of dropouts among peers, number of absences prior to referral, and grade-point average prior to referral. The best predictive combination with reference to current income range included group membership (placed or nonplaced) and grade-point average prior to referral. (CL)

FINAL REPORT

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POST-SCHOOL STATUS OF YOUNG ADULTS IDENTIFIED AS LEARNING DISABLED WHILE ENROLLED IN PUBLIC SCHOOLS: A COMPARISON OF THOSE ENROLLED AND NOT ENROLLED IN LEARNING DISABILITIES PROGRAMS

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ABSTRACT

The purpose of this study was to describe the post-school status of young adults who were identified as learning disabled while enrolled in the Lauderdale County, Alabama, school system, with respect to nine clusters of outcome or criterion variables. Secondary goals of the study were, first, to compare the backgrounds and current status of the placed and the nonplaced groups in the sample; and second, to investigate the predictive ability of background variables with respect to selected outcome or criterion variables.

The sample consisted of 100 young adults born before 1964 who were identified by officials of the Lauderdale County Board of Education as learning disabled according to then-current criteria established by the Alabama State Department of Education. The sample total of 100 persons included 25 who were identified as learning disabled but not placed in programs for learning disabled students; the remaining 75 persons were identified and placed in learning disabilities programs.

The variables selected for use included both those suggested by a review of the literature and others which apparently had not been utilized previously. Data sources were special education records, pupil permanent records, and

interviews with each subject. A wide variety of both background and current status data was collected and analyzed using appropriate descriptive and multivariate techniques.

The descriptive analysis of background data indicated that the sample was largely male and white and represented a lower-middle to upper-lower socioeconomic status. Achievement scores ranged from 55% to 66% of expected grade placement. Even though the placed and nonplaced subgroups differed very little on other measures, the placed group made relatively poorer grades when compared to the nonplaced group. Overall, the placed group seemed to evidence poorer coping skills while in school than did the nonplaced group; this fact appears to have been a factor in the placement decision. A discriminant analysis indicated that the number of retentions and the presence of others in the family who experienced learning problems determined the discriminant function which maximally differentiated the placed and nonplaced groups.

Current status indicators showed the sample to be functioning quite well as adults. A large proportion of sample members were married and nearly one-half were living away from their parents' homes. Most of the sample were not dependent upon parents for financial or decision-making assistance, and 87% were employed. A wide variety of job types were represented, but the largest number were employed in production jobs. Incomes reported were somewhat

low, with two out of three earning less than $10,000 per year; however, sample members indicated that they were moderately happy with their employment.

Almost one-half of the sample failed to graduate from high school, and only a few dropouts have completed a GED program. Many of the respondents have obtained post-high school training and education; vocational colleges and junior colleges were the most utilized means of getting additional education.

The great majority of interviewees reported that they no longer experienced a significant problem in reading, but a small segment (5%) reported that they always had problems with reading as adults. A generally favorable attitude was expressed toward the value of the regular curriculum as preparation for adult living. Much more positive ratings, however, were given to vocational education and learning disabilities classes by those who participated in them.

Multiple regression techniques were employed to determine which background variables were most useful as predictors of selected criterion variables. With respect to grades completed, the best predictors were the presence of at least one dropout among the respondent's five closest school friends, the number of absences prior to referral and grade-point average prior to referral; about 39% of the variance was explained by this combination of

predictors. The best predictive combination with reference to current income range included group membership (placed or nonplaced) and grade-point average prior to referral. This aggregation produced an equation which accounted for only about 13% of the variance, however.

The results of this study indicate that, overall, the members of this sample are functioning quite well as adults, although the symptoms of a learning disability have persisted as an adult reading impairment for some persons. In addition, the selection of predictor variables available was found to contain several variables which are significantly predictive of grades completed and adult income range.

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INTRODUCTION

Professionals concerned with learning disabilities in children have focused almost exclusively upon elementary students from the inception of this discipline until recent years. By the 1970s, however, there was abundant evidence that the learning disabled population included older students as well. With this realization, services for secondary learning disabled students began to assume appreciable importance; research and literature reflected this new concern for older students, as evidenced by several new texts dealing with the educational needs of learning disabled adolescents (Alley & Deshler, 1979; Cruickshank & Silver, 1981; Cullinan & Epstein, 1979; Marsh, Gearheart, & Gearheart, 1978).

The then-current theoretical base for learning disabilities practices offered little guidance in the development of programs for older students. The developmental model, as described by Ames (1968) and Gallagher (1966), posited the existence of a developmental lag or gap between learning disabled children and nonlearning disabled children of the same chronological age. Thus,

the hope was that most learning disabled children would outgrow their disabilities at some point during their school career. The increasing number of learning disabled adolescents encountered by learning disabilities practitioners called this expectation into question. Likewise, a follow-up study of hyperactive and nonhyperactive learning disabled boys conducted by Ackerman, Dykman, and Peters (1977) concluded that the disabilities of most of their subjects had persisted into adolescence; they asked pointedly, "If this deviation represents a lag, when will the gap be closed?" (p. 584).

The persistence of the developmental gap into adolescence caused some observers to question whether or not the lag might be eliminated at all during the school years. Thus, even as the field of learning disabilities sought to come to terms with the needs of learning disabled adolescents, the question of learning disabled adults arose (Blalock, 1981; Cox, 1977). Unfortunately, relatively little research concerning the status of learning disabled adolescents and young adults has been conducted.

Follow-Up Studies of Students with Academic Deficiencies

Most of the early follow-up research with adolescents focused on the persistence of academic

deficits, such as poor reading, which are common among, but not exclusive to, the learning disabled population. Many of the subjects in these studies probably could be labeled as learning disabled today. Johnson and Myklebust (1967) wrote, "Until recently society placed children with learning disabilities in programs already existing rather than considering them as a homogenous group with its own special needs" (p. 48). The subjects of these early studies usually came from those students formerly served in reading centers or clinics; follow-up time lapse ranged from 3 to 15 years. The majority of these studies (Buerger, 1969; Gottesman, Belmont & Kaminer, 1975; Hardy, 1968) concluded that reading problems persist into and even beyond adolescence; these studies thus projected a poor reading prognosis for adults who had experienced serious reading problems as children. On the other hand, Robinson and Smith (1962) found that a population with above-average intelligence (median IQ 120) was able to overcome childhood reading problems and become educationally and occupationally successful adults. Similarly, Balow and Blomquist (1965) found that small samples of persons who had read two to five years below grade level as children read at a 10th-grade level 10 to 15 years later. However, significant emotional and occupational deficits were reported for this group.

Silberberg and Silberberg (1969b) presented a forceful argument against claims of efficacy for remedial reading based on a review of the literature which indicated that remedial gains were usually short-lived and washed out after termination of treatment. The Silberbergs argued that time, effort, and money spent on remediation attempts could be better employed in the development of alternatives to reading, since that skill seemed resistant to remediation; they proposed a "bookless curriculum" (1969a), which would deemphasize reading and stress alternative media.

A later study by Herjanic and Penick (1972) also found that the literature on remedial reading was largely pessimistic, but they noted that the studies were often flawed by uncontrolled factors and concomitant conditions such as low socioeconomic status (SES), emotional problems, and juvenile delinquency. They clearly stated their findings:

> We simply do not know much about the long-term effects of this handicap upon the lives of individuals. The extent to which the disorder persists into adulthood has not been consistently documented. Factors involved in the disappearance or continuation of a childhood reading disability are largely unknown (e.g., unfavorable family situation, conduct problems, family history of reading disability, and the like). Available research suggests that the adult consequences of a childhood reading disability may be quite dependent upon the socioeconomic background of the family and measured intelligence. We do not know, however, in what manner other

> personal characteristics and environmental influences interact with a reading handicap to affect adult outcome. (p. 408)

Herjanic and Penick concluded with a plea for long-term follow-ups of remedial reading and its effects; they also called for studies of the effect of reading disability on adults. The remedial reading literature thus suggests that reading difficulties are persistent and that long-term follow-up studies are needed.

It was earlier suggested that the reading studies cited may have included many subjects who then were classified as remedial reading cases but today might be described as learning disabled. However, other groups of students formerly diagnosed as suffering from hyperactivity, dyslexia, or minimal brain dysfunction might be even more congruent to the learning disabled population (Gearheart, 1980).

Follow-Up Studies of Learning Disabled Students

Follow-up studies utilizing populations identified as learning disabled are of recent origin, so studies dealing with allied fields such as hyperactivity, dyslexia, and minimal brain dysfunction must be considered. Studies originating in those fields might be generalized more readily to learning disabilities than results from the more global populations used in reading studies.

Two follow-up studies of hyperactive students were conducted by Menkes, Rowe, and Menkes (1967) and by

Huessy and Cohen (1976). The former investigators reported that some of their subjects experienced spontaneous remission around puberty, while others continued to exhibit symptoms well into their 20s. Of the 14 subjects, only 8 were self-supporting as adults; of these 8, 7 had IQ scores greater than 90. Huessy and Cohen followed their 95 subjects from second through ninth grade. They observed that those students identified as hyperactive in second grade continued to be at risk for behavioral, perceptual, and academic problems as adolescents. This somewhat limited evidence indicates that hyperactivity can thus continue to contribute to behavioral, perceptual, and social problems for those in whom it persists.

Another group closely allied to learning disabilities is the dyslexic population. Many children who experienced learning problems in the period prior to the emergence of learning disabilities as a coherent discipline were labeled dyslexic or diagnosed as having a specific reading disability. Silver and Hagin (1964) found that 18 of 24 subjects diagnosed as suffering from a specific reading disability during childhood later became adequate readers. The authors noted that those subjects with organic defects continued to experience perceptual problems, while those with a suspected developmental lag did not. Rawson (1968) followed up a group of high

IQ, high SES private school students diagnosed dyslexic. She found that these young adults had succeeded at a wide variety of educational and occupational tasks despite the fact that many still found reading and spelling bothersome. Contrasting results were obtained by Hunter and Lewis (1973) and Frauenheim (1978). The former researchers found that none of their 18 experimental subjects had overcome their reading deficits after two years' remediation. At follow-up, these students were 11 years old, had mean reading deficits of 2.9 years, and had begun to experience emotional problems. These data led the authors to conclude that "The 'emotional cost' of not learning to read is exceedingly high for the dyslexic child, and the 'return' on remedial investment exceedingly low" (p. 170).

Considering the short history of learning disabilities as a recognized field, follow-up studies with students designated as learning disabled are a recent phenomenon. While a few of the preceding studies included some nonacademic dependent variables, such as measures of occupational success (Hardy, 1968; Rawson, 1968) and emotional status (Hunter & Lewis, 1973), most focused on academic outcomes. Several of the learning disabilities studies extended the follow-up procedure to consider more global measures of adaptation.

Abbott and Frank (1975) studied the success of students who had formerly attended a private school for the learning disabled, but who had since returned to regular class placement. Three-fourths were rated as successful academically but fully one-half had undergone psychological counseling during that time. Ackerman, Dykman, and Peters (1977) surveyed another group of learning disabled students four years after placement. Mean achievement scores across subject areas ranged from 1.3 to 3 years below grade placement; this represented only a minor improvement in four years. Gottesman (1979) studied a somewhat older sample and concluded that the achievement-grade placement gap widened with increasing age. White, Schumaker, Warner, Alley, and Deshler (1980) concluded a follow-up of young adults labeled learning disabled while in school. The data indicated that the learning disabled sample was adjusting to adult life about as well as the nonlearning disabled control group. One discrepancy between groups was a feeling of relative dissatisfaction with employment expressed by the learning disabled sample. Faufard and Haubrich (1981) surmised that unemployment was not a problem with their subjects, but they indicated that most were experiencing some social adjustment problems. A 1982 Association for Children with Learning Disabilities (ACLD) survey of learning disabled adults noted that only 10% had

failed to graduate, but a disproportionate number were still living at home and were still somewhat dependent upon parents. A longitudinal study initiated by gathering prenatal data in 1955 on the Hawaiian island of Kauai by Werner and Smith (1982) followed up high-risk infants into their adult years. Three percent of these children were labeled as learning disabled and when retested at age 18 evidenced "continued perceptual-motor problems . . . deficiencies in verbal skills and serious underachievement in reading and writing" (p. 33). This rigorous study also concluded that these persistent academic problems were accompanied by frequent absences from school, misbehavior at school, delinquent behaviors outside school, and sexual promiscuity. Overall, the rate of contact with community agencies was nine times as high for learning disabled adolescents as compared to controls.

Blalock (1981) presented a convincing summary of the state of knowledge concerning the learning disabled population as it moves into adulthood:

> There is growing evidence that learning disabilities do not disappear when learning disabled children successfully (or unsuccessfully) leave the public school system. The belief that learning disabilities are primarily academic problems and will make little difference once the people are placed in jobs that fit their strengths is being disproven. Educators, vocational counselors, and

> employers, as well as the learning disabled young adults and their families are becoming increasingly concerned with the persistent learning problems which interfere with functioning in higher education, vocations, and social situations. (p. 35)

While Blalock's conclusions may seem overly pessemistic, they do represent a valid summary of much of the research. Almost all studies report some manifestation of the learning disability persisting into adulthood. While discouraging, these data are not inconsistent with the constructs developed by Bloom (1964) regarding the increase in relative stability of human characteristics with increased age.

Predictive Studies of Success or Failure

Implicit in the development of follow-up studies is the need to determine variables predictive of the observed outcomes; only a very few learning disabilities studies have addressed this issue. Ackerman, Dykman, and Peters (1977) noted that successful male learning disabled adolescents had higher IQs, smaller academic deficits, no signs of minimal brain dysfunction, and no family history of learning disabilities. According to Gottesman (1979), later referral and higher IQ correlated positively with measures of success. Braunberger (1976) found similar results within an in-school sample. Werner and Smith (1982) reported that among the "key predictors" of inadequate coping ability at age 18 was "a recognized

need for placement in a class for the learning disabled or for six months or more of mental health services by age 10" (p. 47).

While the predictive data in learning disabilities are meager, studies with samples from general school populations, poor Blacks, at-risk first graders, disabled readers, middle SES whites, and dropouts have found variables predictive of successful or unsuccessful outcomes using a variety of dependent variables. A significant relationship, in a predictive sense, between IQ and achievement has been established with a variety of populations (Feldhusen, 1973; Muehl & Forell, 1973; Newman, 1972; Nuttall, Nuttall, Polit, & Hunter, 1976; Peterson & Kellam, 1977; Werner & Smith, 1982). Several studies have found prior achievement to be among the best predictors of future achievement, either as measured by teachers' marks or achievement tests (Bluestein, 1967; DeBottari, 1969; Feldhusen, 1973; Peterson & Kellam, 1977). Other variables found related to achievement success include behavior problems (Feldhusen, Thurston, & Benning, 1970), chronological age at diagnosis (Muehl & Forrell, 1973), family size (Nuttall, Nuttall, Polit, & Hunter, 1976; Peterson & Kellam, 1977), and "school affect" and "home adjustment" (DeWet, 1981).

One field of study which has been fairly successful in developing predictive formulas is that concerning

dropouts. One may hypothesize that many of the dropouts described in studies, especially those done prior to the general availability of secondary special education and learning disabilities services, may represent unserved students in need of services. Frostig (1976) pointed out that dropping out is a normal response to academic frustration on the part of nonachievers. The actual prevalence of dropouts among the learning disabled population, or conversely the learning disabled among the dropout population, is difficult to assess. Huessy & Cohen (1976) reported that the dropout rate for the learning disabled in Vermont was five times that of the nonlearning disabled. The 1982 ACLD survey of learning disabled adults noted a dropout rate of about 10%. Spencer (1977) stated that about 16% of Norfolk, Virginia's, dropouts were in (undifferentiated) special education programs.

Dropout data lead to prediction by way of generating lists of characteristics. Dropout characteristics are like learning disabilities characteristics in that they represent grouped data from a heterogeneous population; as such, they must be viewed with caution and used even more cautiously. Voss, Wendling, and Elliott (1966) and French (1969) argued persuasively that the dropout population is not homogeneous and includes a subgroup of

high ability students for whom different characteristics and motives are operant.

Dealing with the grouped data, a fairly consistent set of variables were located. According to Berston (1960), Coplein (1962), Hect (1975), Hoch (1965), Penty (1960), Stoller (1967), and Williams (1966), low achievement, especially in reading, is associated with dropping out. Poor attendance was cited by Coplein (1962), Hect (1975), and Williams (1966). A record of disciplinary problems was discovered by Coplein (1962), Hect (1975), and Hoch (1965), while a "low" IQ was nominated by Coplein (1962) and Williams (1966). A low level of parental education, parental dropping out, and sibling dropping out were listed by Coplein (1962), Neisser (1963), Tseng (1972), and Williams (1966). Finally, the effect of low SES was reported by Elliott, Voss, and Wendling (1966), Hect (1975), Neisser (1963), and Williams (1966); and retention in grade was listed by Coplein (1962), Voss, Wendling, and Elliott (1966), and Williams (1966).

From such characteristics lists, two noteworthy predictive efforts were made. Stroller (1967) compared dropouts to low achieving graduates and learned that most dropouts were successful students until grade four, at which time English and reading marks dropped radically. By grade four, these former achievers were poor achievers

in English and math; poor achievers who graduated had a history of poor achievement almost from the start of school. A much more rigorous study was conducted by Lloyd and Bleach (1972). They found that a multiple regression equation containing data on reading level, IQ, age, and teacher grades could predict about 75% of dropouts. The variables found to be predictive of dropping out among white students were parental educational level, parental occupations, parental marital status, family size, and mathematics achievement scores. It is noteworthy that all these data were obtained from third-grade pupil records.

The literature on dropouts was valuable to this study in two ways. First, it suggested a selection of variables which may be predictive of dropping out as opposed to graduation among a learning disabled population. Werner and Smith (1982) stressed the importance of interactive factors in failure to cope; factors predictive of dropping out might interact with a learning disability to accentuate failure. Second, the literature on dropouts illustrated the process whereby variables are selected as predictors in a multiple regression model.

Limitations of Follow-Up Studies

Interpretation of the previously cited follow-up studies must be done with caution because populations varied from study to study, populations were poorly defined within studies, age of subjects and lapse of time between treatment and follow-up greatly varied from study to study, and treatments were not similar. The studies from remedial reading, dyslexia, hyperactive populations may be best considered as suggestive of general outcomes and broadly suggestive of predictor variables which might be used. The foregoing evidence from the learning disabilities field is somewhat more helpful because of the generally similar populations; however, the independent variables selected for the study were not restricted arbitrarily to those which were significant in the most studies. Rather, either specific variables or categories of variables were suggested by the previous studies.

Rationale for Study

As early as 1966, concern was expressed about the need for follow-up studies in the field of learning disabilities. Bateman (1966), in closing the first article ever published in the Review of Educational Research which dealt with "learning disorders," stated, "Follow-up studies of the long-term efficacy of remedial procedures which are now in use are especially needed"

(p. 348). Thus, over a decade, as the literature shows, little had been done to assuage the need for such studies. Abbott and Frank (1975) made a similar plea for follow-up studies when they observed that, "If their results show that the children grow up to be functioning members of society, the proper governmental agencies should be made aware of this fact" (p. 297). Those authors also feared that should remediation be denied or prove ineffective, the learning disabled child might grow into an adult who is " . . . dependent upon society in later life" (p. 297).

A recent appraisal of current programming for learning disabled adolescents by Cronin and Gerber (1982) pointed out the need for longitudinal data. They wrote:

> Moreover, longitudinal studies need to be designed that specifically focus on the critical variables in the learning disabled adolescents' adjustment to adulthood. These studies will supply valuable information for the development of needed programming and direction for students, parents, and professionals. (p. 67)

More specifically, Patton and Polloway (1982) suggested that professionals dealing with learning disabled adolescents should conduct follow-up studies of their former students to assess outcomes. The authors also noted the need to carefully define the outcome variables used in follow-up research.

While there have been a limited number of follow-up studies of learning disabled adolescents and young adults, almost nothing has been done regarding the prediction of outcomes within the learning disabled population as adulthood is reached. Cruickshank (1977), in describing parental fears regarding adult outcomes for their learning disabled children, wrote, "Measures of prediction for normal children are relatively crude; for brain-injured children they simply do not exist" (p. 347). Essentially, this same statement is true today. Patton and Polloway (1982) cited the need for "Accurate predictor variables of who will or will not adjust reasonably well" (p. 79).

Statement of the Problem

Relatively little is known about the post-school status of the learning disabled young adult. Some studies have indicated that this vocational and social adjustment is adequate (Rawson, 1968; White, Schumaker, Warner, Alley, & Deshler, 1980), while others emphasize the continued presence of academically related problems (Fafard & Haubrick, 1981; Frauenheim, 1978). A study surveying a single population across variables is needed. Within such a study the following areas need to be considered: (a) former learning disabled students' perceived competence in meeting societal and vocational requirements in reading; (b) vocational history--number and

duration of jobs, job types, and incomes; (c) perceived satisfaction with employment; (d) additional schooling or training; (e) degree of dependence upon parents, both psychological and economic; (f) marital history including educational and socioeconomic status of spouse(s); (g) perceived satisfaction with high school preparation, including vocational education, if provided; (h) contact with legal justice system; and (i) status as high school graduate or dropout. Also, the differences evidenced by the placed and nonplaced groups, with respect to the preceding clusters of variables, require investigation.

In addition to indicating the status of the learning disabled young adult, a need exists to determine what variables are available from school records or interviews which are predictive of outcomes in the areas listed above. These data might be used by local school systems to predict those students on which special attention should be focused to facilitate positive outcomes.

The purpose of this study was to describe post-school status of young adults identified as learning disabled while enrolled in the Lauderdale County, Alabama, school system with respect to nine clusters of criterion variables. In addition, data already available to school officials in special education records and permanent records, or potentially available as results

or interviews, were used to predict outcomes on selected criterion variables. The following research questions were posed:

1. What is the status of post-school young adults who were identified as learning disabled by the Lauderdale County school system during their school years with respect to:

   a. Perceived competence in meeting societal and vocational requirements related to reading?

   b. Vocational history--number of jobs held, duration and type of current job, and income range of current job?

   c. Perceived satisfaction with current employment?

   d. Additional schooling or training attained?

   e. Perceived dependence upon parents with reference to decision making and financial matters?

   f. Marital history, including educational status of spouse?

   g. Perceived satisfaction with high school preparation, including provision of vocational services?

   h. Contacts with the legal justice system?

   i. Status as high school graduate or dropout?

2. What differences are evidenced between the nonplaced and placed groups of former students, and what variables discriminate between the two groups?

3. Are there available in special education records and permanent records or potentially available as

the results of interviews, data which are predictive of the post-school status of former students, as measured by variables selected from the preceding nine clusters?

Definition of Terms

The following definitions apply within the context of this study:

1. Dropout--A student who was dropped from the rolls of the Lauderdale County school system for reasons other than death, graduation, or transfer; and who did not reenter the schools of Lauderdale County or any other school system.

2. Learning disabled student--A student who has been identified according to criteria established by the Alabama State Department of Education, Division of Instruction, Program for Exceptional Children and Youth, whose 1973 State Plan stated:

> The child with special learning disabilities exhibits a disorder in one or more of the basic psychological processes involved in understanding or using spoken or written language. These may be manifested in disorders of listening, thinking, talking, reading, writing, spelling, or arithmetic. The disorders include conditions which may have been referred to as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia, etc. They do not include learning problems which are due primarily to visual, hearing, or motor handicaps, to mental retardation, emotional disturbance, or to environmental disadvantage. An individual must be diagnosed by an appropriate specialist prior to special class placement. Appropriate placement shall be made on the basis of the placement committee recommendations. (p. 57)

3. Nonplaced student--Any person identified as learning disabled by officials of the Lauderdale County Board of Education, but who never was placed in a program for children with learning disabilities.

4. Permanent records--Files maintained by a school system on a permanent basis. In Lauderdale County, these records are kept at the school last attended by the former student and are maintained by school guidance personnel. These records vary in content, but as a minimum contain demographic data, attendance records, and grades for courses taken. In addition, most files contain achievement and aptitude test results, and some contain records of misbehavior, special education decisions, and parent conferences.

5. Placed student--Any person who was identified as learning disabled by officials of the Lauderdale County Board of Education, and who received services in a class for learning disabled students at any time during his or her school career.

6. Post-school young adult--Any person born before January 1, 1964, who has not been a student in the Lauderdale County schools since the May 1981 graduation.

7. Potentially available data--Information which was available to the school system had officials chosen to collect it. The potentially available data were collected retrospectively during the course of the

interview and included information on sibling and peer dropouts, parental education levels, presence of other persons in the immediate family with learning problems, and number of hours worked per week in the last year in school.

METHOD AND PROCEDURES

This study was designed to investigate the post-school status of young adults identified as learning disabled while enrolled in the Lauderdale County school system, with respect to nine clusters of criterion or outcome variables. In addition, data already available to school officials in special education records and permanent records, or potentially available as the result of interviews, were used to predict outcomes on selected criterion variables.

Selection of Independent Variables

Data currently available to the school system are found in two locations. Special education records, primarily reports of individual psychological tests for students placed in the early 1970s, are located in the central office. The second source of data is the pupil's permanent record folder, which is retained at the school which the student last attended.

Several items useful as independent or predictor variables were found in the special education files.

Key among these were Wechsler (WISC, WISC-R, or WAIS) Verbal, Performance, and Full-Scale IQ scores. Numerous studies across several fields (Bluestein, 1967; Muehl & Forell, 1973; Nuttall, Nuttall, Polit, & Hunter, 1976; Peterson & Kellam, 1977) have supported the predictive value of intelligence scores with a variety of outcomes or criterion variables, such as reading achievement and general academic success.

Central office special education files also contained data on chronological age at placement. Both Bluestein (1967) and Muehl and Forell (1973) found that student's chronological age at time of placement was related to success in remedial reading.

The final piece of data available from the central office files was whether or not the child's behavior was cited as a cause for referral. Feldhusen, Thurston, and Benning (1970) found that children identified as behavior problems had lower levels of achievement than did children who were not identified as behavior problems. Likewise, Ackerman, Dykman, and Peters (1977) found that hyperactive learning disabled students had many more adjustment problems as teenagers than did nonhyperactive learning disabled children.

Information available in each student's permanent record folder included a variety of data on family background, information on credits earned each

year, grades, and retentions, as well as achievement test results; these data were a rich source of predictor variables. Some of these variables previously have been found to be predictive of post-school outcomes, while several apparently have not been utilized in follow-up and predictive studies.

Among the variables not reported in the literature are the number of parents in the home, the grade average prior to placement and subsequent to placement, and number of credits or Carnegie units earned by the end of the 10th grade. The number of parents in the home seemed worthy of inclusion, since it may be related to degree and type of supervision available to the child. Grades before and after placement furnished a measure of the placement's academic impact. Similarly, the number of credits or Carnegie units earned yearly was another measure of satisfactory progress within the expectations of the high school; failure to earn credits results in a student's falling behind his or her peers. Frustration and eventual dropping out would be possible outcomes.

Another variable reflected in data from the permanent record folder was the number of siblings which the student had. Family size was significantly predictive of achievement in a study by Nuttall, Nuttall, Polit, and Hunter (1976).

Retention data were also found in permanent record files. Bluestein (1967) found that retention after placement in remedial reading was predictive of poor remedial outcomes.

The duration of placement in learning disabilities classes was determined from permanent record data. Gershman (1976) stated that her study showed that length of placement was related to success in reentering the regular classroom.

The degree of academic deficit, as measured by the difference in achievement on the California Achievement Test and grade expectation at time of placement, was determined from permanent record data. Degree of deficit was found by Bluestein (1967) to be predictive of remedial reading success. Numerous studies have determined that previous academic achievement is the best predictor of later achievement (DeBottari, 1969; Feldhusen, 1973; Muehl & Forell, 1973; Peterson & Kellam, 1977). In this case, achievement scores were those for the last California Achievement Test prior to placement.

Parental occupation was also available in the permanent records. This information was used as a cross-check on data obtained in the interview. Parental occupation is a highly weighted component of the Index of Status Characteristics (ISC) Warner, Meeker, & Eells, 1960).

which was used to estimate parental SES for sample members. Very little information was found in the literature regarding the effect of SES on post-school status of learning disabled persons; however, studies of dropouts indicate that there is a relationship between SES and achievement and thus dropping out (Coplein, 1962; Lloyd & Bleach, 1972).

Another variable which has not been used widely as either a measure of background situation or as a predictor of the post-school status of learning disabled populations is participation in vocational education. A 1982 survey by ACLD indicated that about one-fourth of the learning disabled persons polled had received vocational training, but the former students were not queried concerning their perception of the value of vocational training. Data on participation in vocational education were found in the permanent records and were used as cross-checks on information provided in interviews.

The final variable obtained from the permanent record was attendance. The total number of days absent and tardy for the two years prior to identification and subsequent to identification were obtained from the pupil's permanent record folder maintained by the school which the former student last attended. Poremba (1975) viewed poor attendance as an indicator of

delinquent tendencies among learning disabled adolescents. Likewise, Lloyd and Bleach (1972) found truancy related to dropping out.

All the preceding data are available to school officials at any time; however, there may be useful data which could be obtained by school officials simply by interviewing current students. These potentially available data included parental educational level, presence of close friends who dropped out, presence of siblings who dropped out, presence of other close family members with learning problems, and the number of hours per week of employment experienced by the former student during his or her last year in school. These data were obtained retrospectively as part of the interview.

Selection of Dependent Variables

Three major areas were addressed in selecting variables to assess post-school status of the sample members. These areas were: (a) academic, (b) vocational, and (c) adjustment to adult roles. The individual interview provided multiple measures within these major categories.

Academic status was measured in four areas. Participants were asked questions regarding their status as graduates or dropouts, and they described any vocational or academic training which they had received since high school. In addition, the respondents rated

their perceived competence in meeting societal and vocational reading demands, and they rated the value they attributed to the various components of their high school education.

Vocational status was assessed by six questions. Interviewees reported the number of jobs which they had held, as well as the duration and type of current employment. Participants described their income level and rated the satisfaction which they felt with respect to their current employment situation.

Adjustment to adult roles was measured in three ways. The former students rated their dependence upon parents, described their marital status, and detailed their experiences with the legal justice system. Each participant rated the degree to which he or she depended upon parents for advice and supplemental income. In addition to reporting marital status, married persons described the educational attainment of their spouses. Subjects reported the number of traffic tickets received, the number of arrests and convictions sustained, and the type of punishment experienced.

The data included in the dependent variables provided a multidimensional view of the post-school young adults who comprised the sample for this study. Two variables selected from these three clusters of dependent variables also were utilized as outcome or

criterion variables in the predictive component of this study; these criterion variables were status as dropout or graduate and income range.

Selection of the Sample

The sample for the study consisted of 100 young adults identified as learning disabled while enrolled in the Lauderdale County, Alabama, school system. This sample was drawn from a population which satisfied three criteria. First, each former student must have been identified formally as learning disabled by officials of the Lauderdale County Board of Education, according to then-current criteria and procedures specified by the Alabama State Department of Education. Second, the former students must have had birthdates before January 1, 1964, and must have attained placement in the fifth grade by the 1973-74 school year; these provisions made it reasonably certain that no sample members had attended school after the May 1981 graduation. Third, each former student had to have an individual psychological evaluation report on file in the central office of the Lauderdale County school system. A total of 455 persons met all three requirements; from this population, an initial sample of 100 names was compiled by means of a table of random numbers (Peatman & Schafer, 1942).

It was initially assumed that all persons included in the population had received services in a class for learning disabled students at some point in their careers; however, contact with sample members indicated that some persons had been identified but not placed. At this juncture, it was decided to include 25 nonplaced former students in the sample, in order to utilize a unique opportunity to compare the post-school statuses of placed and nonplaced former students. Random selection of replacements was continued until a sample of 75 placed and 25 nonplaced persons was completed.

Design

This study was a descriptive follow-up investigation of 100 randomly selected young adults who were identified as learning disabled while enrolled in the Lauderdale County school system. In order to compare the background and current statuses of the two groups, the sample included 25 nonplaced and 75 placed members. Constraints were placed on the population to ensure that at least 18 months had elapsed since termination of educational services by graduation or withdrawal.

Independent variables consisted of background data available in school records as well as retrospectively collected data which were potentially available to the school system while the student was still enrolled. These background data included measures of intelligence,

achievement, socioeconomic status, attendance, parental educational level, and other familial and peer characteristics.

Dependent variables were measures of current, post-school status and included academic, vocational, and maturity data. The dependent or criterion variables consisted of data collected during structured interviews with respondents.

Data were analyzed with both descriptive and multivariate techniques. A discriminant analysis was used to determine whether group differences existed, and multiple regression was used to predict selected outcome variables from the set of background or independent variables.

Data Collection

Data were collected in three separate locations for each sample member. First, the individual psychological evaluation report of each population member was located at the central office of the school system. These reports provided basic data such as names and addresses of parents, as well as psychometric data. Appendix A contains the letter from the Lauderdale County Superintendent of Education which authorized access to the files. Second, a structured interview was conducted in which each former student provided current status information. Appendix B contains the form used to record these data. Third, each interviewee's permanent record was located at his or her school; background data were collected in this way. Appendix C contains the form used to record these data.

Locating the Sample

The first step in the procedure leading to an interview was locating the selected individual. First, all local telephone listings for Lauderdale, Colbert, and Franklin counties were searched for the names of either the former student, or his or her parents. If the number of either was located, the procedure to obtain an interview was initiated. If telephone contact was not obtained, a response was solicited by mail. At first, an addressed, stamped postcard was sent, along with a description of the study; later, a request that the respondent call the principal investigator was substituted for the card. Appendix D includes the letters used to solicit responses. Despite a slightly increased rate of response produced by the request to call the principal investigator, mailed solicitation remained inefficient. Many letters were returned by the post office as undeliverable, probably due to the lack of up-to-date addresses. Table 1 illustrates the results of mailed solicitations.

Obtaining Interviews

Once a prospective interviewee was located, he or she was told the purpose of the project, the role of the respondent, and the means whereby the interviewee's name was obtained. At this point, the potential interviewee either agreed to be interviewed or declined to

Table 1

Results of Mailed Solicitations

Result	Card	Letter	Total mailed
Returned undeliverable	21	54	75
No response	10	78	88
Responded--lived out of state	2	0	2
Responded--refused to participate	1	0	1
Agreed to interview	2	6	8
Total	36	138	174

participate. All persons who reported current, permanent addresses more than 50 miles from Florence, Alabama, were eliminated for logistical reasons. Figure 1 is a flow chart which depicts the procedures leading to the eventual acceptance of rejection of sample members.

Conducting the Interviews

Interview subjects were briefed on the scope and purpose of the study, and they signed statements acknowledging their understanding of the study and their agreement to participate in it. Appendix E contains the statement signed by all interviewees. The interview format was varied to meet the situation; factors such as personality of the subject,

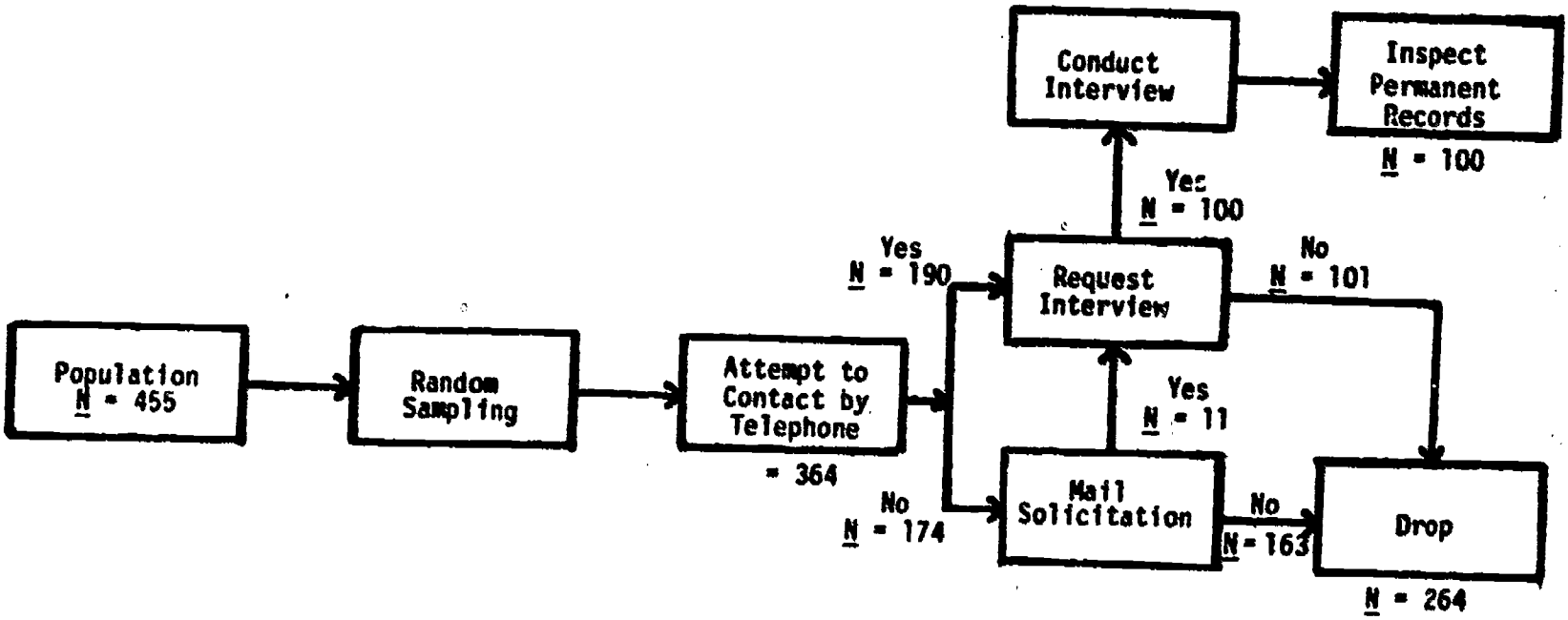

Figure 1. Flow chart of data collection procedure

interests and attitudes of the subject and environmental variables such as noise and interruptions influenced the conduct of the interview. Despite the variation in order and context of the questions, the structure of the interview remained intact, since all persons answered all questions. Duration of the interviews varied from as short as 30 minutes to as long as 2 hours. Overall, interviewees were cordial and good rapport was established with virtually all respondents; none were overtly hostile. All the interviews which were conducted in person were completed; the only aborted interview was one initiated by telephone.

Ninety-six inte views were conducted in person; four were completed by telephone at the interviewee's request. These four consisted of two who were working temporarily outside the Northwest Alabama area, one who was sick, and one who was rarely at home due to working double shifts. The telephone interviews were followed by trips to view the home of the subject's parents in order to gather data for the estimate of family socioeconomic status.

One reason for utilizing the interview technique was to provide a means of viewing the home of the respondent's parents; actually seeing the house and neighborhood was necessary to complete an estimate of socioeconomic status using the Index of Status

Characteristics (ISC) (Warner, Meeker, & Eells, 1960). The ISC estimates socioeconomic status by a multiple factor method in which weighted values represent occupation, source of income, house type, and dwelling area. Such multiple-factor estimators of SES are thought to be more valid than single factor indicators, as Barber (1957) noted, "Using more than one indicator of course makes an index more costly, but it tends to increase its validity as a measure" (p. 176). Powers (1982) explained that "the basic argument for such a multiple-item indicator is the fact that status, however defined, is conceived as multidimensional. Even though occupation may account for most of status, the other items in a multiple-item index may tap other dimensions" (p. 14).

The validity of the specific multiple-factor measure, the ISC, used in this study was investigated by Warner and his associates in their 1949 presentation of the original scale. When compared to an elaborate procedure whereby families in a community actually rated each other's status, the ISC was found to correlate .97 with the "Evaluated participation" model (Warner, Meeker, & Eells, 1949, p. 174). While not describing the ISC as perfect, Gordon (1958) wrote:

> As a rough measure of the relative social status of persons in small cities, however, it is probably at least as adequate as any of the standard "socio-economic status" scales currently in use, and its conceptualization is superior to these since it is defined and validated on one

dimension of stratification--social status. (pp. 114-115)

Haer (1957) reported that the ISC had a higher reliability than most of the other instruments evaluated. Robinson, Athanasiou, and Head (1969) found the ISC to be the most useful of the short SES indicators and recommended it for use in studies of single geographic areas. Appendix F details the ISC.

Obtaining Permanent Record Data

The director of guidance and counseling for the county contacted counselors at each school and urged them to make permanent record data available to the principal investigator. Appendix G contains this letter to the counselors. All the counselors made data available on request and cooperated in every instance. Permanent record folders contained data on achievement, attendance, aptitude, retentions, curriculum, credits, and grades; as well as parental occupation, number of siblings and vocational training. Generally files were complete and data accurate, insofar as could be determined by cross-checking with data obtained in the interviews.

Data Analysis

Two forms of data analysis were employed. Descriptive techniques were employed to illustrate background and current statuses of the former students, and multivariate methods were utilized to clarify group differences and evaluate the predictability of background data.

All data analyses were conducted on a UNIVAC 1100/60 computer located at the Seebeck Computer Center on The University of Alabama campus.

Descriptive Analysis

Subprogram "Frequencies" of the Statistical Package for the Social Sciences (SPSS) (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975) was used to compute the descriptive statistics. This subprogram produced a frequency table, the mean, the median, the mode, the standard error, the standard deviation, the variance, the minimum, the maximum, the range, and figures on kurtosis and skewness.

Multivariate Analysis

All multivariate statistics were computed with programs in the Biomedical Computer Programs P-series (BMDP) package (Dixon, 1981). After reading to change SPSS format to BMDP, the descriptive statistics were run again using BMDP program P4F "Frequency Tables" (Brown, 1981); it was found that the SPSS and BMDP figures agreed, indicating that the coding was consistent.

Discriminant analysis was selected as the means of clarifying the differences between the nonplaced and placed groups, in terms of background data. The purpose of discriminant analysis is to project a vector through space so that the two, or more, groups are maximally separated. According to Klecka (1975):

> Discriminant analysis attempts to do this by forming one or more linear combinations of the discriminating variables. These "discriminant functions" are of the form
>
> $$D_i = d_{i1}Z_1 + d_{i2}Z_2 \ldots d_{ip}Z_p$$
>
> where D_i is the score on the discriminant function i, the d's are weighting coefficients, and the Z's are the standardized values of the p discriminating variables used in the analysis. The maximum number of functions which can be derived is either one less than the number of groups or equal to the number of discriminating variables, if there are more groups than variables. (p. 435)

The program used to perform the discriminant analysis in this study was BMDP program P7M, "Stepwise Discriminant Analysis" (Jennrich & Sampson, 1981). This program's output includes, but is not limited to F-to-enter, Wilks' Lambda with an approximately F statistic, a classification matrix, and a percentage correct classification.

Multiple regression techniques were used to investigate the predictability of selected background variables; separate multiple regression equations were produced for each of the two criterion variables, income range, and grades completed. Hair, Anderson, Tatham, and Grablowsky (1979) stated that "Multiple regression analysis is a general statistical technique used to analyze the relationship between a single dependent variable and several independent variables" (p. 31). The output of a multiple regression analysis

is based upon a unique equation designed to maximally predict the criterion variable from the pool of predictor variables. According to Dixon and Jennrich (1981):

> The regression model fitted to the data is
>
> $$y = a + b_1X_1 + b_2X_2 + \ldots + b_pX_p + \varepsilon$$
>
> where
>
> y is the dependent variable
> $X_1, \ldots, X_p$ are the independent variables
> $b_1, \ldots, b_p$ are the regression coefficients
> a is the intercept
> p is the number of independent variables
> ε is the error with mean zero
>
> The predicted value y for each case is
>
> $$\hat{y} = a + b_1X_1 + b_2X_2 + \ldots + b_pX_p.$$
>
> (p. 252)

The program used to perform the multiple regression was BMDP program P2R "Stepwise Regression" (Dixon & Jennrich, 1981). The output of program P2R includes, but is not limited to measures of multiple R and R-square at each step, a table of regression coefficients and a summary table which shows the increase in R-square produced by the addition of each predictor variable. As in the case of the discriminant analysis, only complete data cases could be included in the procedure; thus, only 91 cases of the 100 could be utilized.

RESULTS

This study was designed to investigate the post-school status of young adults identified as learning disabled while enrolled in the Lauderdale County school system, with respect to nine clusters of criterion or outcome variables. Review of school records indicated that a proportion of those recommended for placement were not, in fact, placed in a learning disabilities program. In order to compare students served in learning disabilities classes with those identified but not placed in learning disabilities classes, 25 nonplaced former students were included in the sample of 100. A secondary purpose of the study was to determine which background variables, if any, were predictive of selected current-status or outcome variables.

Descriptive Analysis

Descriptive analysis treated background data and current status information concerning the 100 learning disabled young adults. Data were obtained from interviews, special education records, and permanent records. Data are reported in terms of percentages, group means, and direction of difference between the two groups. No statistical tests of significance were performed in this descriptive component of the study.

Background Data

Background data were obtained primarily from special education and permanent records, but included some information retrospectively collected during the interview. Background data included general demographic characteristics, socioeconomic and familial information, educational adjustment and progress indicators, psychometric indicators of ability and achievement, vocational training and work experience data, and educational persistence and withdrawal factors.

General demographic characteristics. Interviews were conducted with 100 young adults who had been identified as learning disabled while enrolled in the Lauderdale County school system. This total consisted of 69 males and 31 females. There were 50 males (67%) and 25 females (33%) in the group which had received services in a learning disabilities class; the nonplaced group was made up of 19 males (76%) and 6 females (24%).

The racial composition of the sample was 92 whites and 8 blacks Among the whites, 68 received services (74%) while 24 did not (26%). The placement ratio among the blacks was much higher: 7 out of 8 (87.5%) were placed.

The mean age of the 100 young adults at the time of their respective interviews was 22.1 years and ranged from 20.0 to 26.8 years. The nonplaced former students were slightly older ($\bar{X}$ = 22.2) than those who had been placed ($\bar{X}$ = 22.1). Comparison of these mean ages with ages at referral yielded a mean elapsed time of 8.3 years between original referral and interview for the combined sample. Mean elapsed time for the nonplaced and placed subgroups was 8.9 years and 8.1 years, respectively.

The elapsed time between leaving school and interview for the entire sample was a mean of 3.9 years. The group which had not been served had a mean elapsed time of 4.2 years, while the placed group had been out of school about one-half a year less ($\bar{X}$ = 3.8).

The geographical distribution of the sample generally conformed to the county's nonurban population density. The county operates seven high schools; six of these are represented by students in the sample. The seventh school, located in agricultural west Lauderdale County, had no learning disabilities program until very recently, and so few, if any, placement recommendations were made at that school. Four of the six schools represented in the sample are located in the eastern half of the county, where the bulk of the nonurban population is also concentrated. These four schools

contributed 68% of the sample, while the two schools in the western half of the county contributed 32% of the sample. The location of each school and the number of former students contributed by each of the sample is shown in Figure 2.

Socioeconomic and familial situation. Five measures of socioeconomic and familial background data were obtained: (a) number of siblings, (b) parental status with respect to biological parents, (c) highest parental education level, (d) presence of persons with learning problems in the immediate family, and (e) a multifactor estimate of family social status, the Index of Social Characteristics (Warner, Meeker, & Eells, 1960).

The persons who made up the total sample came from fairly large families; the mean number of siblings in addition to the interviewee was 3.0. Those not placed had a mean of 3.2 siblings (range 0-8), while those placed had a mean of 3.0 siblings (range 0-15). Overall, almost 74% had at least 2 siblings and over 28% had 4 or more siblings. The two subgroups evidenced very little difference in family size; 53.3% of the group which received learning disabilities services were from families with a total of three or fewer children, while 50% of the nonplaced group came from similarly sized families.

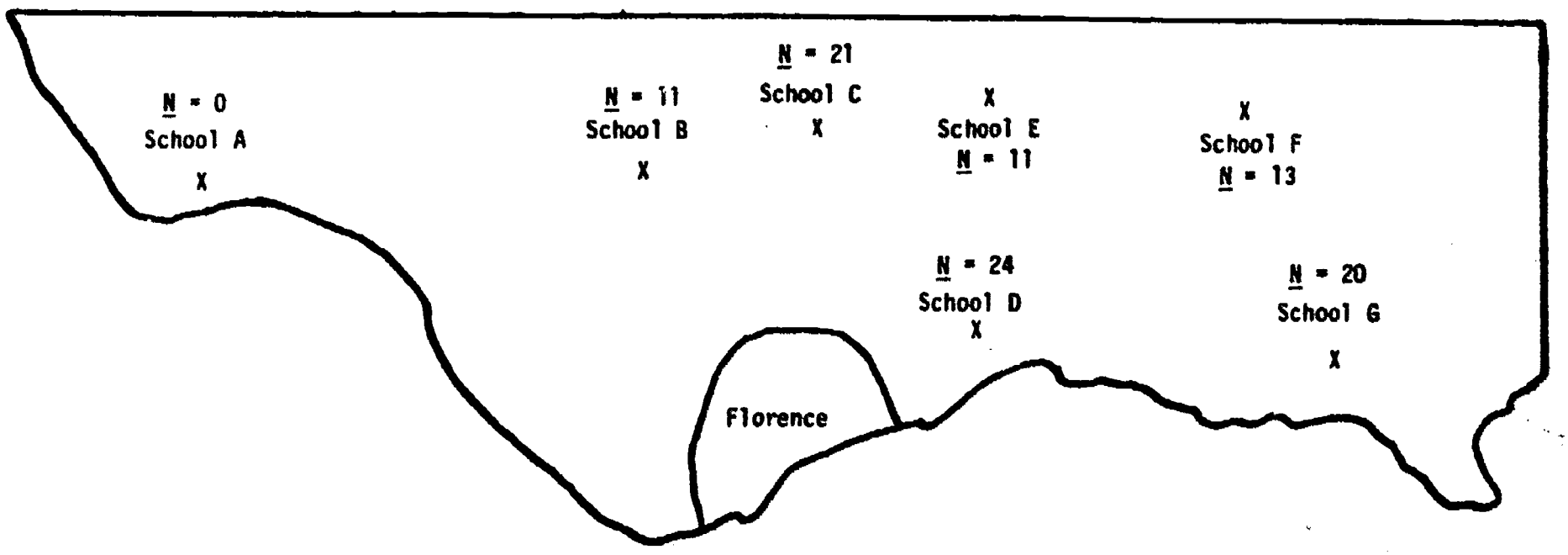

Figure 2. Lauderdale County high schools and the number contributed to the sample by each school.

Parental status was assessed with respect to the optimum, living with both biological parents. Fully 83% of the total sample lived in this optimal situation; 2 respondents lived with 1 biological parent who had remarried, and 11 were raised by 1 biological parent living alone. One of the former students had been raised by grandparents, and three had been placed in foster homes. There was little difference between the two subgroups: 88% of those not placed lived with both natural parents, while 81% of the placed group had lived with both biological parents while in school.

Parental educational attainment was measured by determining the higher educational level obtained by the two parents with whom the former student lived while in school. The mean number of years achieved in school for the higher of the parents associated with the total sample approached the 11th grade ($\bar{X}$ = 10.9). Very little difference was evident between the parents of nonplaced students ($\bar{X}$ = 10.8) and placed students ($\bar{X}$ = 11.0). Similarly, about 56% of the nonplaced sample had at least one parent who held a high school diploma, and 53% of the placed sample had parents with that level of education. One nonplaced and two placed persons had at least one parent with a bachelor's degree. On the other hand, four persons in the nonplaced group and three in the placed group had parents whose education terminated

at or below the seventh-grade level; the lowest educational attainment reported was by a member of the nonplaced group whose parents had achieved no more than a third-grade education. It is noteworthy, but parenthetically so since the parent was not the higher of the two, that one member of the nonplaced group reported having a father who received absolutely no formal education.

Another familial factor is the presence of other persons--parents or siblings--with learning problems in the immediate family. Among the total sample, 57% had no close relative with learning problems, 39% had one associated case of learning problems, and 4% reported two cases of learning difficulties in the family. Of the 43 cases of learning difficulties, 24 represented siblings who received learning disabilities services. Within the nonplaced group, 20 of 25 members (80%) had no other learning difficulties in the family. All five cases of learning difficulties reported for family members among the nonplaced group were siblings placed in learning disabilities programs. The placed group represented only 37 cases (49.3%) of no other learning problems in the family, with 38 cases of at least one other learning problem in the family. Of these 38 persons, 34 had one other occurrence, while 4 reported two other occurrences of learning problems. Nineteen

cases, representing 21 siblings, were cases of siblings actually placed in learning disabilities programs; two persons had two siblings each who had been placed into learning disabilities programs. While data are incomplete on this point, it appears that at least one-third of the siblings who were placed in learning disabilities classes were younger and were placed after the referral or placement of the sample members.

Another very important factor in family environment is the social status enjoyed by a family. An estimate of social status was made using the Index of Status Characteristics (ISC), developed by Warner, Meeker, and Eells in 1949 and revised in 1960. Rather than assessing social status on a unitary factor, the ISC uses multiple, weighted measures: occupation, source of income, house type, and dwelling area. The resulting total ISC scores range from 12 (upper class) to 84 (lower-lower class).

The mean total ISC scores for the aggregate sample of 100 were 51.1 (SD = 10.3). This mean score represents an indeterminate level, either lower-middle class or upper-lower class. Scores on the ISC for the two subgroups were quite similar: the nonplaced group showed a mean of 50.9 and a range of 32 to 68; the placed group obtained a mean of 51.2 and exhibited a range of 31 to 63. Table 2 contains the ISC distribution by classification levels, but the similarity of the nonplaced and placed

Table 2

Distribution of Scores on the ISC

Total of weighted ratings	Social status equivalents	Total		Placed		Nonplaced	
		N	%	N	%	N	%
12-17	Upper class	0	0	0	0.0	0	0
18-22	Upper class probably with some chance of upper-middle class	0	0	0	0.0	0	0
23-24	Indeterminate: either upper or upper-middle class	0	0	0	0.0	0	0
25-33	Upper-middle class	2	2	1	1.3	1	4
34-37	Indeterminate: either upper-middle class or lower-middle class	11	11	11	14.7	0	0
38-50	Lower-middle class	34	34	22	29.3	12	48
51-53	Indeterminate: either lower-middle class or upper-lower class	10	10	9	12.0	1	4
54-62	Upper-lower class	30	30	23	30.7	7	28
63-66	Indeterminate: either upper-lower class or lower-lower class	5	5	4	5.4	1	4
67-69	Lower-lower class probably with some chance of upper lower class	4	4	1	1.3	3	12
70-84	Lower-lower class	4	4	4	5.3	0	0
	Total $\bar{X}$ on ISC	51.1		51.2		50.9	

groups can be appreciated by noting that exactly 40% of each group obtained scores which placed them in or below the upper-lower class level. Likewise, only one person in each group came from a family situation which merited the upper-middle class label. Overall, it would appear that the sample represents a group whose socioeconomic status is somewhat restricted. The ISC distribution is depicted in Table 2.

Indicators of educational adjustment and progress. A considerable variety of data was obtained from school records relating to the degree of educational adjustment and progress experienced by the sample. Information was compiled regarding age and grade at which referral occurred, duration of placement for those placed in a program for the learning disabled, absenteeism before and after referral or placement, grade-point average before and after referral or placement, Carnegie units earned by the 10th grade, and retentions in grade.

The nonplaced referrals tended to have been considered for placement at a slightly earlier age and grade than those who actually were placed in a learning disabilities program. Mean ages at referral for nonplaced and placed groups were 13.3 and 14.0, respectively. Corresponding grade means at referral were 7.3 for the nonplaced and 8.0 for the placed group. Composite mean age and grade level at referral for the entire sample were

13.8 years at grade 7.9. Referrals for the nonplaced group ranged in age from 10.7 to 16.3 and in grade level from 5th to 9th. Referral ages among the placed group ranged in age from 9.9 to 19.4 and in grade level from 5th through 11th.

Those 75 students who were placed in learning disabilities classes received services for periods varying from 1 to 7 years. Table 3 summarizes the distribution of service duration; for 78.7% of those placed, duration of services was two or fewer years. The brevity of placement, in part, may be explained by a combination of late identification--generally not until junior high school--and lack of placement opportunities in high school. At the time when most of these former students were being served, learning disabilities classes were nonexistent in several senior high schools and students were unserved by default.

One measure of adjustment to the school situation is absenteeism. Absenteeism data were collected with respect to each former student for the two years prior to placement or referral and the two years after placement or referral. Where records of both absences and tardies were available, these values were summed to yield an absenteeism score. For the combined sample, the mean number of absences prior to placement or referral was 13.8; attendance ranged from no absences

Table 3

Duration of Placement

Years	N	Percentage
1	37	49.3
2	22	29.3
3	8	10.7
4	1	1.3
5	4	5.3
6	2	2.7
7	1	1.3

Note. $\bar{X}$ = 2.0 years; SD = 1.4.

in four cases to one example of 66 absences. One-half of the students missed only nine or fewer days. Among the nonplaced group, the mean number of absences for the two years prior to referral was 14.0 and the range extended from 1 day to 66 days, with 52% being absent 10 or fewer days. Within the placed group, the mean number of absences prior to placement was 13.7 and ranged from perfect attendance to 54 days, with 53.5% being absent 10 or fewer days.

Absenteeism increased somewhat after placement. For the two years subsequent to the placement or referral, the mean number of absences for the combined sample was 16.3 days and ranged from 8 cases of perfect

attendance to 1 example of 91 absences, with 49.5% being absent 10 or fewer days. For the nonplaced group, the mean number of absences post-referral was 15.4 and ranged from 0 to 86 days, with 54.5% being absent 10 or fewer days. The mean number of absences among the placed group for the two years following placement was 16.5 and ranged from 0 (6 cases) to 1 example of 79 days, with 48% being absent 10 or fewer days.

One fairly direct assessment of academic survival, and hence educational adjustment and progress, is grade-point average; these data were obtained for the last two years prior to placement and the first two years subsequent to placement. All marks were recorded as letter grades by the schools; these were converted to a numerical equivalent using a scale extending from 1 (an "F") to 12 (an "A"). The total sample manifested a mean grade mark of 4.8 for the two years prior to placement; this value represents a grade in the range of D+ to C-. The nonplaced referrals exhibited a mean grade of 5.2, representing a grade mark in the C- to C range. The placed segment obtained a somewhat lower mark, the mean being 4.6, corresponding to a grade average in the D+ to C- range.

The two years after placement or referral were marked by increased grade scores; the combined sample increased their mean from 4.8 to 5.3, or into the C- to

C range. Those students who were placed in a program for the learning disabled saw their grades increase from a mean of 4.6 to 5.2; that is, from the D+ to C- area to the C- to C area. The mean grade of the placed group, however, remained somewhat below that of the nonplaced group; the distribution of grade marks, both pre- and post-referral, is shown in Table 4.

As students move into high school, their progress becomes a function of the Carnegie units, or credits, earned. Most students in Lauderdale County have the opportunity to earn six credits yearly; thus, by the end of 10th grade they should have accrued from 10 to 12 credits. The combined sample had earned a mean of 8.1 units, with a range from 0 to 12. Seven or fewer units had been earned by 25% of the sample, and only 36% had earned 10 or more units. The nonplaced group had obtained a mean of 8.8 units, with only 20% having 7 or fewer, and 56% having 10 or more. Within the placed group, the mean of units earned was 7.9, with 32% having 7.5 or fewer units, and 40% having 10 or more credits. These data are shown in Table 5.

The decision to retain a student is based in large part on academic progress, measured in elementary school and junior high by grade average and in high school by credits earned. It is not surprising, therefore, that 44% of the combined sample repeated at least one grade

Table 4

Academic Average for Two Years Prior to Referral and Two Years Subsequent to Referral

Grade average prior to referral	Total		Placed		Nonplaced	
	N	%	N	%	N	%
D-	10	10.0	7	9.3	3	12.0
D	13	13.0	12	16.0	1	4.0
D+	24	24.0	19	25.3	5	20.0
C-	20	20.0	15	20.0	5	20.0
C	15	15.0	10	13.3	5	20.0
C+	6	6.0	3	4.0	3	12.0
B-	4	4.0	2	2.7	2	8.0
B	1	1.0	1	1.3	0	0.0
B+	2	2.0	1	1.3	1	4.0
A-	1	1.0	1	1.3	0	0.0
Missing	4	4.0	4	5.3	0	0.0

Grade average subsequent to referral	Total		Placed		Nonplaced	
	N	%	N	%	N	%
D-	1	1.0	1	1.3	0	0.0
D	12	12.0	7	9.3	5	20.0
D+	26	26.0	22	29.3	4	16.0
C-	20	20.0	17	22.7	3	12.0
C	22	22.0	15	20.0	7	28.0
C+	8	8.0	5	6.7	3	12.0
B-	5	5.0	4	5.3	1	4.0
B	5	5.0	4	5.3	1	4.0
B+	0	0.0	0	0.0	0	0.0
A-	1	1.0	0	0.0	1	4.0
Missing	0	0.0	0	0.0	0	0.0

Table 5

Credits Earned by End of 10th Grade

Credits	Total		Placed		Nonplaced	
	N	%	N	%	N	%
0- .5[a]	9	9	7[b]	9.3	2[c]	8
1- 2.5	7	7	5	6.7	2	8
3- 4.5	3	3	3	4.0	0	0
5- 6.5	5	5	5	6.7	0	0
7- 8.5	15	15	12	16.0	3	12
9-10.5	37	37	29	38.7	8	32
11-12[d]	24	24	14	18.6	10	40
	$\bar{X}$ = 8.1		$\bar{X}$ = 7.9		$\bar{X}$ = 8.8	
	SD = 3.[illegible]		SD = 3.7		SD = 3.7	

[a]Total includes eight persons who withdrew prior to the ninth grade.

[b]Total includes six persons who withdrew prior to the ninth grade.

[c]Total includes two persons who withdrew prior to the ninth grade.

[d]Twelve credits were the maximum earned by anyone.

($\bar{X}$ = .66). Among the nonplaced group, only 28% repeated at least one grade, but 49.3% of those placed had at least one retention. The mean number of retentions for the nonplaced group was .32, less than one-half the mean of the placed group, .77. The retention frequencies for the different groups are reported in Table 6.

Table 6

Number of Grades Repeated

Grades repeated	Total		Placed		Nonplaced	
	N	%	N	%	N	%
0	56	56	3[illegible]	50.7	18	72
1	28	28	22	29.3	6	24
2	12	12	11	14.7	1	4
3	2	2	2	2.7	0	0
4	2	2	2	2.7	0	0
	$\bar{X}$ = .66 SD = .91		$\bar{X}$ = .77 SD = .98		$\bar{X}$ = .32 SD = .56	

Psychometric indicators of ability and achievement. All the intelligence test data obtained were the results of testing by Lauderdale County school psychometrists using the appropriate form of the Wechsler scales. The complete sample had a mean Full Scale IQ of 94.3; the nonplaced group had a mean of 92.7, while that of the placed group was 94.9. Overall, the total sample showed

a mean Performance IQ of 96.6, as opposed to a mean Verbal IQ of 93.4. There was a tendency toward a higher Performance IQ as opposed to Verbal IQ among the placed group. Mean Performance IQ of the placed group was 97.9 with a Verbal IQ mean of 93.3. The reverse was true of the nonplaced segment of the sample where a mean Verbal IQ of 94.0 was greater than the mean Performance IQ of 92.6. However, these means were greatly influenced by the presence of three widely varying subjects in the nonplaced group; two of these persons had 23-point differences in favor of their Verbal scores (109-86, 106-83) while a third individual had a 39-point difference in the same direction.

The individual differences between Verbal and Performance IQ scores for the complete sample showed Performance IQ's to be greater in 66 cases, Verbal IQ's to be greater in 32 cases, and Verbal and Performance scores to be equal in two cases. In the nonplaced group, Performance scores were greater in 13 cases (52%), Verbal scores were greater in 11 cases (44%), and scores were equal in one case (4%). Among those placed, Performance IQ's were greater in 53 cases (70.7%), Verbal scores were greater in 21 cases (28%), and equal in one case (1.3%).

The mean difference in Verbal and Performance scores for the entire sample was 12.2 points. The

nonplaced group exhibited a slightly smaller mean difference, 11.3, than did the placed group, 12.5. The greatest single difference in favor of the Performance score was 51 points (81-132) and occurred in the placed group; the largest difference in favor of the Verbal group was 39 points (118-79) and occurred in the nonplaced group.

Achievement data consisted of California Achievement Test (CAT) results for the year nearest to referral or placement. Because a variety of grade placements made up this sample of CAT scores, some means of directly comparing the scores was needed, since grade equivalents would not be comparable. Recognizing that the manipulation of the scores might affect the reliability, an index of achievement was therefore computed for each CAT score by dividing grade equivalents by grade placement at time of test and eliminating decimals by multiplying by 100. Therefore, the achievement index was equivalent to a percentage of achievement or conversely, represents 100% minus the percentage of discrepancy for those below grade level. This manipulation, thus, becomes a limitation of the study and must be considered when interpreting the data. CAT data for mathematics, spelling, reading, and language were utilized.

Mathematics achievement indexes ranged from 1 to 118. That is, for the whole sample, scores as low as 1% of grade level and as high as 118% of grade level were recorded; total sample mean was 66.4, or about 66% of grade placement level. There was little difference in

achievement in mathematics between the two groups. The nonplaced group achieved a mean of 67.6, as opposed to the mean of the placed group at 66.0. Indexes ranged from 31 to 118 among the nonplaced group and from 1 to 111 in the placed group.

Spelling achievement indexes ranged from 15 to 160 for the full sample, with a mean of 61.4. Again, the two subgroups differed very little, with the nonplaced group obtaining a mean of 60.7, while the placed group scored slightly higher, with a mean of 61.7. Scores ranged from 26 to 95 in the nonplaced group, and 15 to 160 in the placed sample.

The full-sample mean achievement index for reading was 59.1, with a range from 7 to 113. The nonplaced group obtained a mean of 60.8, with a range of 36 to 102. The placed sample scored slightly lower, with a mean achievement index of 58.5 and a range between 7 and 113.

Language achievement was the lowest of the four areas, with an overall sample mean of 59.0 and a range from 21 to 107. The nonplaced group showed a mean of 55.0 and a range of 21 to 91. The placed segment obtained a mean achievement index of 60.4 in language, with a range of 27 to 107.

The overall sample thus achieved between 59% and 66% of grade placement as measured by the four CAT subtests. The order of achievement, from least to

greatest, was: language, reading, spelling, and mathematics. For the nonplaced sample, the corresponding order was language, spelling, reading, and mathematics. The placed sample scored from least to greatest in the order of reading, language, spelling, and mathematics. In many cases, however, the actual differences among the ranking were trivial. Table 7 summarizes achievement data.

Vocational training and work experience. The members of the total sample to a large degree took advantage of vocational education made available through the Allen Thornton Area Vocational School. A total of 64% had at least one semester of vocational education, while 46% had at least two years, or four semesters, of vocational services. Fourteen students (14%) had a total of three years of vocational training. The mean number of semesters of vocational education was 2.5 for the total sample, with the 64 persons representing 78 enrollments, 14 persons having been enrolled in more than 1 vocational specialty. These 78 enrollments included 20 different training programs and totaled over 250 semesters of training.

The nonplaced group contained 17 persons (68%) who received at least one semester of vocational education. Of these 17, 12 (48%) compiled at least 2 years of vocational training, and the group mean was 2.4 semesters.

Table 7

Achievement Indexes on the CAT

Index[a]	Total		Placed		Nonplaced	
	N	%	N	%	N	%
Reading						
0- 10	1	1	1	1.3	0	0
11- 20	0	0	0	0.0	0	0
21- 30	2	2	2	2.7	0	0
31- 40	17	17	15	20.0	2	8
41- 50	17	17	12	16.0	5	20
51- 61	17	17	13	17.3	4	16
61- 70	16	16	8	10.7	8	32
71- 80	13	13	8	10.7	5	20
81- 90	5	5	5	6.7	0	0
91-100	4	4	4	5.3	0	0
> 100	4	4	3	4.0	1	4
Missing	4	4	4	5.3	0	0
	$\bar{X}$ = 59.1 SD = 20.7		$\bar{X}$ = 58.5 SD = 22.4		$\bar{X}$ = 60.8 SD = 15.3	
Language						
0- 10	0	0	0	0.0	00	0
11- 20	0	0	0	0.0	00	0
21- 30	4	4	1	1.3	3	12
31- 40	8	8	6	8.0	2	8
41- 50	17	17	14	18.7	3	12
51- 60	20	20	15	20.0	5	20
61- 70	14	14	10	13.3	4	16
71- 80	12	12	8	10.7	4	16
81- 90	4	4	4	5.3	0	-
91-100	4	4	3	4.0	1	4
> 100	2	2	2	2.1	0	0
Missing	15	15	12	16.0	3	12
	$\bar{X}$ = 59.0 SD = 18.3		$\bar{X}$ = 60.4 SD = 18.3		$\bar{X}$ = 55.0 SD = 18.3	

Table 7--Continued

Index[a]	Total		Placed		Nonplaced	
	N	%	N	%	N	%
Spelling						
0- 10	0	0	0	0.0	0	0
11- 20	1	1	1	1.3	0	0
21- 30	5	5	4	5.3	1	4
31- 40	12	12	10	13.3	2	8
41- 50	11	11	7	9.3	4	16
51- 60	18	18	12	16.0	6	24
61- 70	14	14	11	14.7	3	12
71- 80	11	11	7	9.3	4	16
81- 90	4	4	3	4.0	1	4
91-100	9	9	7	9.3	2	8
> 100	3	3	3	4.0	0	0
Missing	12	12	10	13.3	2	8
	$\bar{X}$ = 61.4 SD = 23.5		$\bar{X}$ = 61.7 SD = 25.2		$\bar{X}$ = 60.7 SD = 18.5	
Mathematics						
0- 10	1	1	1	1.3	0	0
11- 20	0	0	0	0.0	0	0
21- 30	0	0	0	0.0	0	0
31- 40	5	5	3	4.0	2	8
41- 50	8	8	4	5.3	4	16
51- 60	20	20	16	21.3	4	16
61- 70	29	29	25	33.3	4	16
71- 80	13	13	10	13.3	3	12
81- 90	13	13	7	9.3	6	24
91-100	3	3	2	2.7	1	4
> 100	4	4	3	4.0	1	4
Missing	4	4	4	5.3	0	0
	$\bar{X}$ = 66.4 SD = 17.8		$\bar{X}$ = 65.9 SD = 16.9		$\bar{X}$ = 67.6 SD = 20.4	

[a]The achievement index = $\frac{\text{Grade achieved}}{\text{Grade placed}}$ X 100

[b]The percentage was rounded to nearest tenth of a percent, so column will not total 100% in all cases.

The placed group numbered among its members 47 (62.7%) who had at least one semester of vocational training, of whom 34 (45.4%) obtained at least two years of training. Mean number of semesters of training for the placed group was 2.5.

Over one-half of the entire sample had some work experience while still enrolled in school, but 45 persons did not work until after leaving school. Of the 55 who worked, all worked at least 10 hours per week, and 16 worked virtually full-time--30 to 40 hours per week.

Work experience differed very little across the two subgroups. The nonplaced group contained 12 persons with no work experience (48%), and 4 persons (16%) who worked 30 to 40 hours per week during their last year in school. The placed group included 33 persons (44.6%) who did not work while in school, and 12 (16.2%) who worked 30 to 40 hours per week.

Educational persistence and withdrawal factors. A measure of the sample's educational persistence is the number of grades completed All the former students completed at least seven grades of schooling; all the nonplaced group completed at least eight grades. The mean number of years completed for the total sample was 11.0, while the mean for the nonplaced group was 11.1, and the placed group completed a mean of 10.9 years.

Table 8 details the attrition and persistence data, but overall 58% graduated, with graduation rates of 64% and 56% being attained by the nonplaced and placed groups, respectively.

Table 8

Last Grade Completed

Grade	Total		Placed		Nonplaced	
	N	%	N	%	N	%
7	1	1	0	0.0	1	4
8	7	7	6	8.0	1	4
9	12	12	10	13.3	2	8
10	12	12	10	13.3	2	8
11	10	10	7	9.3	3	12
12	58	58	42	56.0	16	64
	$\bar{X}$ = 11.0 SD = 1.4		$\bar{X}$ = 10.9 SD = 1.4		$\bar{X}$ = 11.1 SD = 1.5	

[a]Percentage is rounded to nearest tenth, so column will not total 100%.

Interviewees were queried on two points in order to estimate the degree of contact each former student experienced with respect to contemporary students who had dropped out. First, each person was asked how many of his or her siblings had withdrawn from school while the respondent was still in school. Second, each former student was asked to recall his or her five closest

friends while in high school and then tell how many of those five graduated. The mean number of sibling withdrawals which the total sample experienced while still in school was .48. The nonplaced subgroup exhibited a much higher mean of .72 than did the placed group which had a mean of .40. However, the mean of the nonplaced group was greatly influenced by the presence of one person in that group who had no fewer than seven siblings who dropped out; 68% of that group had no sibling withdrawals, and an additional 20% who had only one sibling dropout. The placed group included 70.7% of its members who had no sibling withdrawals, and another 22.6% who had one sibling who withdrew.

The mean number of peer withdrawals reported for the whole sample was .67. There were 62% who had no peer withdrawals among their five closest friends and another 20% who had only one friend who withdrew; only one respondent stated that all five of his or her closest friends had withdrawn. Eighteen of the 25 nonplaced interviewees (72%) stated that they had no close peer withdrawals; those with 1 and 2 peer dropouts numbered 4 (16%) and 3 (12%), respectively. The nonplaced group displayed a mean of .40; the mean of the placed group was .76, almost twice as great a rate as that experienced by the nonplaced group. Among the placed group, 44 of 75

members (58.7%) reported no withdrawals among their closest peers, and 31 persons (41.3%) had at least one peer who withdrew.

Summary: Background Data

The sample comprised 100 young adults consisting of 69 males and 31 females; there were 92 whites and 8 blacks. The age range of the former students was from 20 to nearly 27 years, with the mean age being just over 22 years. Approximately eight years had elapsed since these persons had been referred for special education services, and the mean elapsed time since the sample left school was just under four years.

The sample came from fairly large families, with about four children per family; most of the families (83%) had both natural parents living at home. All the parents had at least a third-grade education, and about one-half had parents with a high school diploma. There were no other reported learning problems in slightly over one-half the families from which the sample came, but there were 43 cases of at least one other learning impaired individual in the family; of these 43, 24 were persons placed in classes for the learning disabled. Social status of families represented in the sample, as measured by the Index of Status Characteristics, ranged from upper-middle class to lower-lower class, but

40% of the sample scored in or below the upper-lower class range.

Most of the sample was referred for special services while between the ages of 12 and 15 (about 75%) and during grades 7 and 8 (66%). Among the total sample, 75 were placed in learning disabilities classes, and 25 were not placed. Of the 75 placed students, duration of services ranged from 1 to 7 years. For over three-fourths of the sample, service duration was one or two years. School attendance for the sample was fairly good, both for the two years prior to and subsequent to placement; about one-half the sample missed 10 or fewer days for each of the two-year periods.

Grade-point average for the total sample was generally low, with 85% of the group averaging C or below prior to referral and 81% averaging C or below after referral. Mean grade-point average rose slightly from the D+/C- range to the C-/C range after referral. In high school, the persons in this sample lagged somewhat behind in Carnegie units upon finishing the 10th grade, with only 56% having 10 or more units, and the mean being just over 8 credits. It is consistent with the low grades and delayed acquisition of credits that 44% of these former students were retained in grade at least once.

Psychometric data indicated that the mean Full Scale IQ of the sample was 94.3, while mean Verbal and Performance IQ's were 93.4 and 96.6, respectively. Performance IQ's were greater than Verbal IQ's in about two-thirds of the cases, and the mean difference in Verbal and Performance scores was about 12 points.

California Achievement Test data were converted to achievement indexes; these indicated that at or near the time of referral the group as a whole was achieving from 59% to 66% of grade level in the four subtest areas. The order of achievement from least to most for the entire sample was: language, reading, spelling, and mathematics.

The sample, in general, took advantage of vocational training opportunities, with 64% receiving at least a semester of training. About one-half (45.4%) received two or more years of vocational training. Slightly over one-half of the sample held jobs during their last year of school, and 16% worked at least 30 hours per week during that time.

All the former students completed at least 7 years of school, with a mean of 11.0 years. Overall, 58% graduated from high school. About 70% of the sample had no sibling dropouts, and 62% had no close friends who withdrew before graduation.

Differences between the subgroups. Inspection of the data, both means and distributions, showed differences of low magnitude on most measures of background variables. Race as a factor in placement seemed to be indicated by seven of eight Blacks being in the placed group, but the sample of Blacks was too small to specify a definite trend. One familial characteristic on which there appeared to be an imposing difference was presence of others in the family with learning problems. Only 20% of the nonplaced group had other persons in the family with learning problems, while just over 50% of those placed had family members with learning problems.

Another measure on which there appeared to be a real difference was academic average. The placed group showed 53.3% of its members scoring below the C range, while only 36% of the nonplaced group scored as low, for the two years prior to referral. For the two years after referral, the nonplaced group continued to have 36% scoring below the C range, but the placed group reduced its proportion in that range from 53.3% to 40%. The implied academic deficiency among the placed group appeared to have continued into the high school years since at the end of the 10th grade the nonplaced group had an average of one more academic credit than had the placed group. Another indication of reduced academic coping on the part of the placed group was the fact that almost one-half of

that group (49.3%) had been retained at least once, while the retention rate for the nonplaced group was only 28%. On the other measures of background status, the differences appeared to be too small to justify specifying any trends.

Current Status Data

All measures of current status were obtained through the interview. Data were collected with reference to adjustment to adult roles, employment and occupation, perceptions regarding adequacy of respondent's education, post-high school education and training, and relation to the legal justice system since high school.

Adjustment to adult roles. Variables which reflected adjustment to adult roles included measures of financial independence from parents, frequency of decision-making input from parents, marital status, and residential independence. Seventy-eight percent of the entire sample stated that parents contributed no more than 20% of their total income last year. Proportions of the two subgroups who relied upon their parents for no more than 20% of their income were similar, being 84% and 76% for nonplaced and placed segments, respectively. At the other extreme, 12% of the overall sample were virtually dependent upon the financial support of their parents, the latter providing at least 80% of the respondent's total income. Only one member (4%) of the

nonplaced group reported at least 80% dependence upon parental funds, while 14.7% of the placed group had similar dependence. Among the placed group, however, were at least three full-time students. Table 9 illustrates the dependence of the groups upon parental finances.

Table 9

Percentage of Former Student's Income Contributed by Parents

Percentage contributed	Total		Placed		Nonplaced	
	N	%	N	%	N	%
80-100	12	12	11	14.7	1	4
60- 80	1	1	0	0.0	1	4
40- 60	2	2	1	1.3	1	4
20- 40	7	7	6	8.0	1	4
0- 20	78	78	57	76.0	21	84

Interviewees claimed somewhat less independence in decision making as compared to financial support. Overall, there were 26 persons who stated that they consulted with parents always or frequently when making decisions other than day-to-day, routine choices. Twenty-eight reported occasional consultation with parents, while 46 persons claimed that they consulted with parents seldom or never. Among the nonplaced group, 14 persons

(56%) seldom or never sought parental advice, while 4 persons (16%) stated that they sought advice frequently; none in this group admitted always requesting parental advice. Within the placed group were 32 persons who seldom or never sought advice, but there were 22 persons (29.3%) who frequently or always sought parental help in decision making. Of these 22 persons, there were 7 (9.3%) who always sought help from parents. Table 10 details these data.

Table 10

Frequency of Parental Input in Decision Making

Frequency	Total		Placed		Nonplaced	
	N	%	N	%	N	%
Always	7	7	7	9.3	0	0
Frequently	19	19	15	20.0	4	16
Occasionally	28	28	21	28.0	7	28
Seldom	28	28	18	24.0	10	40
Never	18	18	14	18.7	4	16

Almost one-half of the sample had been married by the time of the interview; 41 currently remained married, and 4 were divorced. None had been married more than once and 55 had never married. Among those who had not been placed, 10 persons (40%) had been married, and

4 of these were currently divorced. The placed group included 35 who had been married (46.7%), and of these, three were divorced (4%).

Those who married selected spouses with educational backgrounds comparable to their own. The mean educational attainment of spouses across the entire sample was 11.7 years compared to a mean total educational attainment of 11.3 years for sample members. Nonplaced persons had a mean total educational level of 11.4 years, and their spouses obtained a mean of 11.9 years. The placed group attained 11.3 years of education as compared to their spouses' mean of 11.3 years.

Residential independence was measured by observing whether or not the former students had established homes of their own. Within the total of 100, 46 persons had their own places of residence, while 54 still lived with parents. In the nonplaced group, 11 persons (44%) had their own homes, and 35 members of the placed group (46.7%) lived in their own homes. Most of the persons who had their own homes (40 of 46) were currently or formerly married. The six single persons who had their own homes were all males. One variation on the theme of residential independence was represented by five males, four married and one single, from the placed group. These young men had either mobile homes or permanent dwellings erected on land donated by parents and

contiguous to the yards of the parents. This situation probably represents a compromise dictated as much by high land prices, housing costs, and interest rates as by dependence upon parents.

The type of dwelling occupied by independently living sample members varied considerably. Probably due to the rural nature of the sample, only five persons lived in apartments. Sixteen lived in mobile homes, and 23 were renting or buying houses. One person was a student living in a dormitory and a second was a prison inmate with accommodations provided in a state penitentiary. The distribution of housing types across groups is shown in Table 11.

Table 11

Housing Types

	Total[a]	Placed	Nonplaced
House	23	17	6
Mobile Home	16	12	4
Apartment	5	4	1
Other[b]	2	2	0

[a]Total includes 46 persons living in own residences.

[b]Includes one person in prison and one person living in a college residence hall.

Employment and occupational data. There were 87 persons in the sample who were employed. Of the 13 unemployed persons, 11 were members of the placed group (14.7% of that group), while 2 were from the nonplaced group (8% of that group) The 13% unemployment rate compares favorably to the Lauderdale County unemployment rate, which was 15.1% as of November 1983 (Alabama Department of Industrial Relations, 1984). Data by age group are not published on a monthly basis by the state, but data extracted from the 1980 census indicated that when the overall unemployment rate was 8.4%, it was 11.8% for the age range 20-24 years (Alabama Department of Industrial Relations, 1983). Thus, if the same ratio of overall to age 20-24 unemployment rates was operative in November 1983, when the overall rate was 15.1%, then a rate of 21.2% might be expected for the 20-24 year age group. If such is the case, the 13% unemployment rate of this sample is even more impressive.

Only 4 persons, 3 placed and 1 nonplaced, were employed less than full time. Of those employed full time, 6 worked for their parents or a close relative; 5 of these 6 were from the placed group. In the nonplaced group, 84% were employed full time for employers other than parents or close relatives; 74.7% of the placed group were so employed, as were 77% of the complete sample.

The occupations of sample members varied across a wide spectrum. To facilitate clustering of jobs into meaningful categories, the jobs were classified according to the Standard Occupational Classification Manual (United States Department of Commerce, 1980). This classification system codes jobs by a digital system wherein the specificity increases with the number of digits. For example, the two-digit identifier code 37 designates "Engineering and Related Technologists and Technicians," while the four-digit code 3734 specifies "Cartographic Technicians." To keep groupings simple and meaningful, the classification headings for two-digit identifiers were used with these data. In general, the lower two-digit codes refer to more prestigious and more skilled jobs than do higher two-digit codes. Table 12 details the distribution of jobs according to code and sex of job holder.

The use of even more general one-digit code headings is useful for discussion purposes. Only one person from the sample was classified as within the "Executive Administrative, and Managerial Occupations." This was a male from the placed group who is purchasing manager for a state resort lodge. Likewise, only one worker, a male from the nonplaced group was classified as a member of "Technologists and Technicians, Except Health." He was

Table 12

Occupational Data

Code[a]	Categorical descriptor	Male	Female	Total	Percentage of sample
Occupations by job category and sex of worker					
14	Management related occupations	1	0	1	1
38	Science technologists and technicians	1	0	1	1
43	Sales occupations, retail	3	3	6	6
46-47	Administrative support occupations, including clerical	2	0	2	2
50	Private household occupations	0	1	1	1
52	Service occupations, except private household and protective	2	5	7	7
56	Other agricultural and related occupations	3	0	3	3
57	Forestry and logging occupations	4	0	4	4
61	Mechanics and repairers	2	0	2	2
64	Construction trades	4	0	4	4

Table 12--Continued

Code[a]	Categorical descriptor	Male	Female	Total	Percentage of sample
65	Extractive occupations	1	0	1	1
68	Precision production occupations	4	1	5	5
73-74	Machine set up operations	1	0	1	1
75-76	Machine operators and tenders	16	15	31	31
77	Fabricators, assemblers, and hand working occupations	2	0	2	2
78	Production inspectors, testers, samplers, and weighers	3	0	3	3
82	Transportation occupations	2	0	2	2
83	Material moving occupations, except transportation	3	0	3	3
86	Helpers	1	0	1	1
87	Handlers, equipment cleaners, and laborers	6	0	6	6
91	Military occupations	2	0	2	2
	Missing or having no occupation	6	6	12	12

Table 12--Continued

Code[a]	Categorical descriptor	Total		Placed		Nonplaced	
		N	%	N	%[b]	N	%
Occupation	job category and group membership						
14	Management related occupations	1	1	1	1.3	0	0
38	Science technologists and technicians	1	1	0	0.0	1	4
43	Sales occupations, retail	6	6	6	8.0	0	0
46-47	Administrative support occupations, including clerical	2	2	1	1.3	1	4
50	Private household occupations	1	1	1	1.3	0	0
52	Service occupations, except private household and protective	7	7	6	8.0	1	4
56	Other agricultural and related occupations	3	3	3	4.0	0	0
57	Forestry and logging occupations	4	4	3	4.0	1	4
61	Mechanics and repairers	2	2	1	1.3	1	4
64	Construction trades	4	4	2	2.7	2	8
65	Extractive occupations	1	1	0	0.0	1	4

Table 12--Continued

Code[a]	Categorical descriptor	Total		Placed		Nonplaced	
		N	%	N	%[b]	N	%
68	Precision production occupations	5	5	3	4.0	2	8
73-74	Machine set up operations	1	1	0	0.0	1	4
75-76	Machine operators and tenders	31	31	24	32.0	7	28
77	Fabricators, assemblers, and hand working occupations	2	2	2	2.7	0	0
78	Production inspectors, testers, samplers, and weighers	3	3	1	1.3	2	8
82	Transportation occupations	2	2	2	2.7	0	0
83	Material moving occupations, except transportation	3	3	2	2.7	1	4
86	Helpers	1	1	0	0.0	1	4
87	Handlers, equipment cleaners, and laborers	6	6	5	6.7	1	4
91	Military occupations	2	2	2	2.7	0	0
	Missing or having no occupation	12	12	10	13.3	2	8

[a]Codes and descriptors are as found in "Standard Occupational Classification Manual," (U.S. Department of Commerce, 1980), pp. 18-31.

[b]Percentages were rounded to nearest tenth, so column will not total exactly 100%.

a propellent technician for a solid propellant rocket motor manufacturer.

Six members of the sample, all placed, were cited in the "Marketing and Sales Occupations" category; these included such jobs as a market clerk, a parts salesman, and an auto salvage yard parts salesman. Two persons were designated as belonging to the "Administrative Support Occupations, Including Clerical." Both persons, one from each subgroup, were bank couriers who carried records between branch banks. Not a single person in the sample was employed in secretarial or business office positions even though four had received such training in vocational school.

Ten persons worked in "Service Occupations." Only one of these persons was from the nonplaced group, and this group included such jobs as janitor bartender, "bouncer" at a lounge, hairdresser, and nurses aide. "Agricultural, Forestry, and Fishing Occupations" embraced seven persons, including six from the placed group; these jobs included a horse trainer, two farm hands, and four sawmill workers.

"Mechanics and Repairers" took in only two jobs held by group members, one was an automobile body repairer from the placed group, and the other was a part-time air conditioner repairman from the nonplaced group. There were four members of the "Construction and

Extractive Occupations" contingent. These were two carpenters (one from each subgroup), a steamfitter from the placed group, and a concrete finisher from the nonplaced group. "Precision Production Occupations" included four employed and one unemployed worker. These were three machinists, one unemployed due to an injury; one self-employed upholsterer; and an electronics component assemblier. Three of these persons came from the placed group and two were nonplaced.

The largest single category of workers was "Production Working Occupations" which numbered 37 members, 27 from the placed group and 10 nonplaced. There were 11 males operating metal or plastic-working machines, 15 females and a male operating textile machines, and 2 males operating furnaces. In addition, three were inspectors in metal fabricating plants, two were welders (one unemployed), and one was a production set-up specialist.

Five persons, four placed and one nonplaced, were employed in "Transportation and Material Moving Occupations." These included two heavy truck drivers and two employed and one unemployed heavy equipment operators. The least skilled and least prestigious category is "Handlers, Equipment Cleaners, Helpers, and Laborers." Seven persons, five placed and two nonplaced, were included in this group and comprised a garbage

collector, two construction laborers, three stack handlers, and a mechanic's assistant.

Besides classifying civilian jobs, the manual also included a separate category for military occupations. Two males from the placed group were currently in the armed forces: one was an army heavy equipment operator and the other was a navy avionics repairman who was involved in the Grenada operation.

Income levels as well as occupations were evaluated. The combined group had 35% of its members who earned less than $5,000 per year; 32% earned between $5,000 and $10,000; 21% earned $10,000 to $15,000; 7% earned $15,000 to $20,000; 3% earned $20,000-$25,000; and 2% earned $25,000 to $30,000 per year. Thus, 67% earned below $10,000 and 88% earned below $15,000.

Members of the nonplaced group consistently earned higher incomes than did persons from the placed group. The nonplaced group showed 24% earning less than $5,000, while 38.7% of the placed group earned such amounts. Similarly, the proportion earning less than $10,000 was 73.3% and 48% for placed and nonplaced groups, respectively. Likewise, at the $15,000 level, 93.3% of the placed group were earning less, but only 72% of the nonplaced group had such earnings. Four of the 25 nonplaced persons (16%) had $15,000 to $20,000 per year incomes compared to three members of the placed group

(4%) who earned similar amounts. Two members of the nonplaced group (8%) had $20,000 to $25,000 incomes, while only one member (1.3%) of the placed group did so. Only one member of each group, representing 4% of the nonplaced and 1.3% of the placed group, earned $25,000 to $30,000 per year. On a scale of 1 to 6, representing the $5,000 increments described above, the overall mean income reported was 2.2, with nonplaced and placed groups exhibiting means of 2.7 and 2.0, respectively. Figure 3 graphically illustrates the distribution of incomes.

Not only did nonplaced workers earn somewhat more, they also had held somewhat fewer jobs than had placed workers. Despite having been out of school longer, a mean of 4.2 years as opposed to 3.7 years, nonplaced persons had held a mean of 2.5 jobs as compared to 2.8 jobs for the placed group. Nonplaced persons had also been working longer on their current jobs, with a mean of 2.1 years compared to the placed group's mean of 2.0 years. Persons with less than a full year on the current job made up 39.1% of the nonplaced sample and comprised 54.4% of the placed sample. Also, 56% of the nonplaced group had held two or fewer jobs, while only 39.7% of the placed group had held the same number of jobs. Across the groups, the overall mean number of jobs held

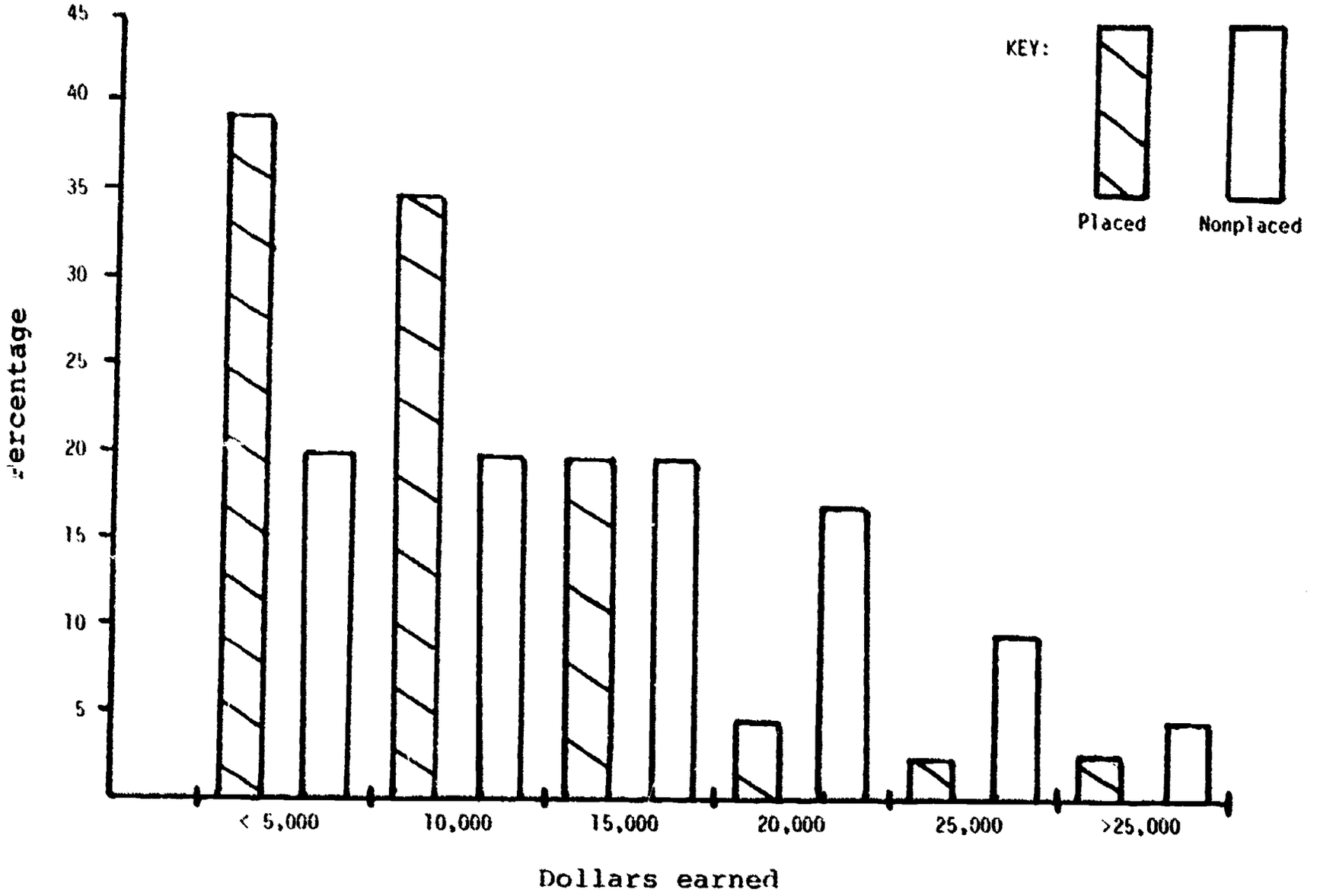

Figure 3. Income ranges by group.

was 2.7 and the mean duration of current employment was 2.1 years. These data are reported in Table 13.

Worker satisfaction with his or her current employment situation also was investigated. Interviewees rated their job satisfaction on a 5-point scale ranging thus:

1 = Unemployed or otherwise dislike job very much

2 = Dislike job somewhat

3 = Job is only adequate

4 = Like job somewhat

5 = Like job very much

The mean response was 3.5, indicating mild satisfaction with the current job. Nonplaced workers declared somewhat greater satisfaction with their work than did those from the placed group, showing a mean of 4.1 compared to a mean of 3.2 for the placed group.

Overall, 23% of the sample reported that they were either unemployed (approximately 13%) or disliked their job very much (approximately 10%). On the other hand, over one-half (57%) stated that they liked their jobs somewhat or very much. Among the nonplaced group, 12% (3 persons) showed strong dissatisfaction with their current employment status. Deducting two unemployed members, only 4% (one person) strongly disliked his or her work. Within the placed group, 20 persons (26.7%) were either unemployed or otherwise strongly disliked their

Table 13

Number of Jobs Held and Duration of Current Employment

	Total		Placed		Nonplaced	
	N	%	N	%	N	%
Number of jobs held						
0	7	7	7	9.3	0	0
1	24	24	15	20.0	9	36
2	17	17	12	16.0	5	20
3	29	29	23	30.7	6	24
4	13	13	11	14.7	2	8
5	6	6	5	6.7	1	4
6	3	3	1	1.3	2	8
7	0	0	0	0.0	0	0
8	0	0	0	0.0	0	0
9	1	1	1	1.3	0	0
	$\bar{X}$ = 2.7 SD = 1.5		$\bar{X}$ = 2.8 SD = 1.5		$\bar{X}$ = 2.5 SD = 1.6	
Duration of current employment in years						
1 or less	46	46	37	49.3	9	36
2	22	22	14	18.7	8	32
3	7	7	6	8.0	1	4
4	8	8	4	5.3	4	16
5	4	4	3	4.0	1	4
6	3	3	3	4.0	0	0
7	1	1	1	1.3	0	0
Missing	9	9	7	9.3	2	8
	$\bar{X}$ = 2.1 SD = 1.5		$\bar{X}$ = 2.0 SD = 1.5		$\bar{X}$ = 2.1 SD = 1.3	

jobs. Deducting the 11 unemployed, 9 persons (12%) strongly disliked their jobs. At the other extreme, approximately twice the proportion of nonplaced as compared to placed persons (60% versus 32%) reported liking their jobs very much. Similarly, 76% of the nonplaced group stated that they liked their jobs at least somewhat, compared to 50.7% of the placed group who expressed such feelings. The data are shown in greater detail in Table 14.

Table 14

Satisfaction with Current Employment Situation

Categorical descriptor	Total		Placed		Nonplaced	
	N	%	N	%	N	%
Either unemployed or dislike job very much	23	23	20	26.7	3	12
Dislike job slightly	5	5	5	6.7	0	0
Job is adequate	15	15	12	16.0	3	12
Like job somewhat	18	18	14	18.7	4	16
Like job very much	39	39	24	32.0	15	60

Thus, with regard to employment, the great majority of the sample were employed, had worked on their current jobs for over two years, and were somewhat satisfied with their jobs. When subgroups were compared, a trend existed for those in the nonplaced group to have somewhat

higher incomes, to have held the current job slightly longer, to have held slightly fewer jobs, and to be somewhat more satisfied with current employment.

Current perceptions of the former students regarding education. Each respondent was asked to rate the value of his or her educational experience with regard to regular education classes and vocational and special education (learning disabilities) classes where applicable. The rating was done on the basis of the degree to which the former students' high school education had prepared them to cope with the problems of everyday living as an adult. A scale of 1 to 5 was used, with 1 representing "not at all" helpful and 5 signifying helped "very well."

Overall, 89% reported that the regular curriculum had prepared them at least adequately. Five persons (5%) were very negative toward the value of the regular curriculum, rating it as not at all helpful, while 25 persons (25%) found the regular curriculum very helpful to them. The mode chosen was a rating of 4 (helped fairly well), with 51% of the sample so choosing; the mean rating was 3.9.

Members of the nonplaced group were quite positive in their assessment of the value of the regular curriculum, assigning a mean rating of 4.2. A total of 21 persons (84%) found the regular curriculum at least fairly helpful, denoted by ratings of 4 or above. Only one person (4%)

described the regular education classes as not at all helpful.

Persons from the group which had received special education services were somewhat less generous in their rating of regular education's value to them, attributing a mean of 3.7. Twenty respondents (26.7%) assigned a rating of adequate or less to the regular curriculum, while 55, or 73.3%, assigned a value of 4 or 5 denoting the regular curriculum as fairly or very helpful.

Vocational education was rated by two-thirds of the sample who participated therein; 89.6% of those persons rated it 4 or 5, with a mean value of 4.3. Only 3% perceived the vocational curriculum as useless to them. Those in the nonplaced group were very positive about the value of the vocational curriculum, 88.9% assigning a value of 4 or 5, while 11.1% assigned the lowest rating, 1. Among the placed group 93.9% assigned values of 4 or 5, and no person in that group assigned the lowest value, 1.

Seventy-five persons in the sample had received services in the learning disabilities classes; of these, 67 (89.3%) rated the services provided by the special classes as fairly or very helpful (a 4 or 5 rating), with a group mean of 4.4. Two raters (2.7%) assigned the lowest possible value, 1, denoting not at all useful. One person (1.3%) rated the special classes as preparing

him or her poorly (a rating of 2), and an additional five persons (6.7%) gave a value of 3, signifying that the learning disabilities class prepared them only adequately. Figure 4 graphically illustrates the mean ratings assigned to each form of education by each group.

All former students were asked to rate the adequacy of their current reading abilities in terms of meeting everyday reading requirements on the job and at home. Overall, 68 persons (68%) stated that they seldom or never encountered reading difficulties, but 5 (5%) reported that they always encountered problems when doing any reading which they might attempt. Another 27 persons reported difficulties ranging from frequently to occasionally in occurrence.

Those persons who did not receive learning disabilities services included 19 (76%) who stated that they seldom or never encountered reading problems as adults. Of these 19, 14 (56%) said that they never had any reading problems as adults. Twenty-four percent indicated that they faced problems at least occasionally. Two persons (8%) found all reading difficult.

Within the group of those who were placed, 49 persons (65.3%) noted that they seldom or never found reading difficult; 28 of these (37.3%) reported never having problems as adults. At least occasional reading problems were acknowledged by 34.7% of the group, and three persons

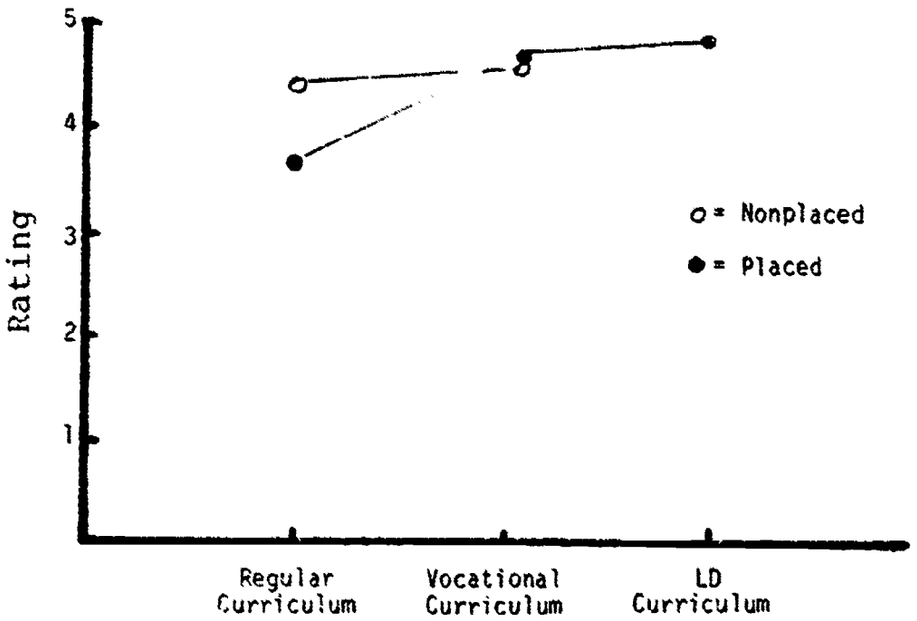

Figure 4. Means of ratings assigned by members of the two groups to the various components of their high school education. (Note: Rating value of 1 is lowest, 5 highest.)

(4%) stated that they always had difficulty with any reading they might do. Table 15 is a comparison of the groups with respect to perceived reading ability.

Table 15

Perceived Competence in Meeting Societal and Vocational Reading Demands

Frequency of reading difficulty	Total		Placed		Nonplaced	
	N	%	N	%	N	%
Always	5	5	3	4.0	2	8
Frequently	12	12	9	12.0	3	12
Occasionally	15	15	14	18.7	1	4
Seldom	26	26	21	28.0	5	20
Never	42	42	28	37.3	14	56

Educational experience since high school. The sample included 69 persons who had received no additional academic or vocational training since high school; there were, therefore, 31 who had obtained some additional training. Among the varieties of postsecondary training and education represented in the sample were four-year colleges, two-year colleges, trade and technical colleges, business schools, cosmetology schools, and military technical schools. Of the 31 persons with some postsecondary work, 10 completed only one semester and 9 finished two semesters. On the other extreme were

two persons who had completed six and seven semesters, respectively.

The nonplaced group had only four persons (16%) with any post-high school training. Two persons completed only one semester each, but this group also contained the two persons with the most postsecondary training, six and seven semesters each. The mean number of semesters attained by the nonplaced group was .60. The placed group had a total of 27 members (36%) with post-high school training. Seventeen of these persons completed only one or two semesters, while eight persons each completed three or four semesters, and two completed five semesters. Mean number of semesters for the placed group was .85.

Only four persons from the sample had completed any work at four-year colleges. One person from the nonplaced group had completed the pre-engineering program at a state university and was looking forward to starting the remainder of his work at a college or university which had an engineering degree program. Two persons from the placed group had completed three semesters at a university, and one other from that group attended a university for one semester before transferring to a two-year college.

Two young women had acquired associate of arts degrees from two-year colleges, and another lacked only

two more quarters on a two-year nursing program. One person finished one quarter at a junior college, and another was enrolled in her first quarter in a two-year nursing program. All persons who had matriculated at two-year colleges were from the placed group.

State technical and vocational colleges were attended by 15 persons, 3 from the nonplaced group (12%) and 12 from the placed group (16%). Only five of these persons, one of whom was from the nonplaced group, had completed his or her respective certification programs. Two persons finished the program in welding and one each in auto mechanics, machine shop, and refrigeration.

Eleven persons obtained post-high school training in various ways. Two young women completed training at beauty colleges and received their state cosmetology licenses. One person attended a business college for one semester, and one continued his welding training at a special night school established by the area vocational school which he had attended while in high school; this person also later attended a special school run by the Tennessee Valley Authority for its welders who work on reactor cooling pipes. One young man, visually impaired as well as learning disabled, followed his three semesters at a state university with two semesters at a special school for those with vision problems; he was trained

as a tax consultant, and since the interview, has been employed by the Internal Revenue Service.

Three persons received technical training in armed forces Advanced Individual Training (AIT) schools. Two completed training in electronics and one attended heavy equipment operators' school. In addition to these traditional sources of training, three persons were trained at special federally funded area skills centers. Four others, not included in the totals above, attended special classes offered by adult basic education programs to those wishing to prepare for the General Educational Development (GED) test. Among the four who started classes, only one passed the test.

With respect to post-high school experience, 25 of the 31 persons who received additional training were high school graduates. Six of the seven dropouts who obtained their GED certificate went on to receive some postsecondary training; however, only 7 out of the 42 dropouts (16.7%) had obtained GED certificates. This proportion of those receiving GED's is quite small, but it is unknown exactly how many have attempted the test and failed.

When semesters of post-high school experience were converted to years, it was found that this training amounted to .37 years. The total sample earned a mean of 11.0 years of school, so a total of 11.4 years of

education were obtained by the entire sample, on the average.

The nonplaced group of 25 persons included 9 who did not graduate (36%); but 3 of these have since obtained GED certificates. Among the 16 in this group who graduated, 3 obtained at least one year of education beyond high school. The mean of additional schooling for the group was .24 years; this added to the mean number of school years completed, 11.1, yielding a total mean of 11.3 years of education for the group.

There were 33 dropouts among the placed group (44%). Of these 33, only 4 (12.1%) obtained a GED certificate. Twenty-two of the 42 graduates achieved at least one year of education beyond high school. The group mean for years of additional education was .41 years; this, added to the mean number of school years completed, 10.9, yielding a total mean of 11.3 years of education for the placed group.

Relationship to the legal justice system. The total sample included 19 persons (19%) who stated that they had been arrested. Six of these 19 persons were not convicted. Of the 13 who were convicted, 12 were assessed a fine only, and 1 was serving a prison sentence. Five persons had received more than 5 traffic citations, not including parking tickets, and 76 claimed never to have

been arrested and never to have received more than 5 traffic tickets.

Only four persons (16%) of the nonplaced group had been arrested, and the only two (8%) who were convicted received only fines. Three persons (12%) had more than 5 traffic tickets, but 18 persons (72%) had fewer than 5 traffic citations and no arrests.

The placed group evidenced 15 persons who had been arrested (20%). Of these, 4 were not convicted, 10 were convicted and received fines, and 1 was convicted and sentenced to a prison term. Two persons (2.7%) reported receiving more than 5 traffic citations, but 58 (77.3%) had never been arrested and had fewer than 5 traffic citations. Not every arrestee described his crime, but the most commonly mentioned charges involved drug or alcohol violations. The one person serving a prison term had been arrested on drug and theft charges.

Summary of Current Status Data

About 78% of the sample were dependent on their parents for less than 20% of their income. About 46% of the sample stated that they seldom or never consulted with parents when making decisions, while 26% consulted with parents always or at least frequently. Some 45 persons had married with four subsequently becoming divorced. Those who had married chose spouses who had comparable total levels of education.

A total of 54 persons still lived at home with their parents, and 87% of those who had their own homes were married. Only a few of those living away from parents lived in apartments, while the bulk lived in mobile homes or permanent dwellings which were being rented or bought.

The great majority of the sample (87%) were employed, the overall unemployment rate being below the county rate at the time of the interviews. Most of those who were employed had full-time work with employers other than parents or close relatives. The occupations at which the former students were employed varied from lower-level managerial and technical occupations to janitorial and stock handler jobs. The largest single category of occupations was production working jobs, with 38 persons fitting into that group. Income figures showed that 67% of the sample worked for less than $10,000 per year; only 5% earned over $20,000 per year.

The mean number of jobs held by sample members was about 2.7, and the mean duration of current employment was just over two years. Fully one-half of the sample were working on jobs at which they had less than one year's experience. Respondents generally indicated mild satisfaction with their jobs, while only about 10% strongly disliked their work.

Respondents showed a positive perception of their educational experiences. Eighty-nine percent of the group thought that they were prepared adequately or better than adequately for adult living by the regular curriculum. Vocational and learning disabilities classes were more highly rated by those members who had experienced them than was the regular curriculum. The highest mean rating was awarded by the placed group to the value of learning disabilities classes.

Over two-thirds of the sample stated that they seldom or never experienced any reading problems in meeting everyday demands. Five persons, however, reported that they always experienced difficulty when doing any reading.

Post-high school training was limited to 31 persons, several of whom had received GED certificates after dropping out. Only a few of the sample members (4%) had attended four-year colleges, and none had completed more than two years. Two persons, however, had earned associate of arts degrees from two-year colleges, and five had completed certification programs at state technical colleges. The remainder attended a variety of programs for limited periods. One rather disappointing statistic was the fact that of 42 dropouts, only 7 had received GED certificates, despite a number enrolling in GED preparation classes.

The members of this sample included fewer than one in five who ever had been arrested. Twelve of the 13 who were convicted received only fines as punishment, and one was serving a prison sentence. Only 5 persons had received over 5 traffic citations, and the remaining 76 persons had never been arrested or received over 5 traffic tickets.

Differences between the subgroups. There was a slight tendency among the placed group to show greater dependence upon parents in decision making than was evident in the nonplaced group. Fifty-six percent of the nonplaced group stated that they seldom or never sought advice, but only about 43% of the placed group made similar claims. No one in the nonplaced group stated that they always sought parental advice, while 9.3% of the placed group did so.

The most imposing differences between groups appeared in the employment area. Income distributions were somewhat different, with 73.3% of the placed group earning below $10,000, while only 48% of the nonplaced group had similar incomes. Likewise, 93.3% of the placed group earned less than $15,000, while 72% of the nonplaced segment earned below that figure. Sixteen percent of the nonplaced group earned $15,000 to $20,000, but only 4% of the placed group earned in that range. The means (based on six income ranges of $5,000

each) for the two groups were dissimilar, being 2.7 and 2.0 for the nonplaced and placed groups, respectively. Differences in the means for both number of jobs held and duration of current employment were small, but both favored the nonplaced group. Distributions also tended to favor the nonplaced group on both counts; persons with less than one year's experience on the current job comprised 39.1% of the nonplaced group and 54.4% of the placed group. Similarly, 56% of the nonplaced group had held two or fewer jobs, while only 39.7% of the placed group had held that number.

Job satisfaction was also greater among the nonplaced segment. Only 4% of the nonplaced group strongly disliked their jobs, while 12% of the placed group did. At the other extreme 60% of the nonplaced group stated that they liked their jobs very much, while only 32% of the placed group felt the same way. Group means (5-point scales) were also dissimilar in the same direction: 4.1 for the nonplaced group and 3.2 for the placed group.

The views of the two groups regarding the various forms of educational service were similar but differed slightly in respect to the value of regular educational services; means for these ratings (5-point scales) were 4.2 for the nonplaced group and 3.7 for the placed group. The greatest contrast in the distributions occurred at the lower or unfavorable end. No one in

the nonplaced group rated regular education as not at all helpful, but 6.7% of the placed group did so. Similarly, 4% of the nonplaced group rated regular education as preparing them poorly for adult life, as opposed to 13.3% of the placed group who awarded similar ratings. The two groups differed very little in their attitude toward vocational education; both rated it highly.

Multivariate Analysis

According to Ferguson (1981), "The term multivariate statistics conventionally refers to a broad class of correlational statistical methods used in the analysis of data comprising more than two variables, sometimes many" (p. 461). In this study, the multivariate techniques utilized were discriminant analysis and multiple regression.

Discriminant Analysis

Discriminant analysis is a multivariate technique which creates a discriminant function that defines a unique vector in discriminant space. This vector then maximally separates the groups, in this case those who were not placed and those who were placed. Stepwise discriminant analysis, using program P7M (Jennrich & Sampson, 1981) was chosen from the BMDP package (Dixon, 1981) for use in this study.

The discriminant variables chosen for inclusion in the analysis were: (a) maleness (dummy variable for sex), (b) Caucasianness (dummy variable for race), (c) elapsed time since leaving school, (d) ISC total score, (e) Full Scale IQ score, (f) age at placement or referral, (g) absences prior to referral, (h) grade-point average prior to referral, (i) credits achieved by end of 10th grade, (j) number of biological parents at home, (k) retentions, (l) CAT reading index, (m) CAT math index, (n) presence of peers who withdrew, (o) presence of siblings who withdrew, (p) parental educational attainment, (q) presence of others with learning problems in immediate family, and (r) number of hours worked per week in last year of school.

Since there were only two groups, only on discriminant function could be generated; only two steps, with one variable added per step, produced the final discriminant function. The two variables which produced the best case of discrimination were retentions and the presence of others in the family who exhibited learning problems. As coded for this analysis, the group means for retentions were .83 and .32 for placed and nonplaced, respectively. Means for presence of others with learning problems in the family were .20 and .58 for nonplaced and placed, respectively.

The Wilks' Lambda for the resultant discriminant function was .86, indicating that only about 14% of the variance was explained. The approximate F-statistic was 6.9. For 2 and 88 degrees of freedom, this F value exceeds the critical F of 4.9 for significance at $p < .01$. Thus, while statistically significant, the large Wilks' Lambda indicates that the results should be interpreted cautiously with respect to practical significance. Table 16 is a summary of the discriminant analysis.

One utilization of a discriminant analysis is to construct synthetic groups based on the discriminant function. The accuracy of the composition of these synthetic groups, when compared to the actual groups, is one measure of the discriminant ability of the function. Predictive accuracy of this function was moderate, with 62.1% of the synthetic "placed" group being correct, and 76% of the synthetic nonplaced group being correct. Due to missing data, the N for this analysis was reduced from 100 to 91; of the 91 cases, 65.9% were correctly located in the synthetic groups. The classifications produced by the discriminant function are summarized in Table 17.

Multiple Regression Analysis

One purpose of this dissertation was to determine the predictive ability of the set of background data as independent variables and selected current status

Table 16

Summary of Discriminant Analysis

Number of variables	Variable entered by step	F-to-enter	Wilks' Lambda	F value	df	
19	Step 1: Family members with learning problems	8.1	.92	8.1	1, 89	
	Step 2: Retentions	5.4	.86	6.9	2, 88	$p < .01$[a]

[a]Critical $F(2, 88) = 4.9$.

Table 17

Classification Matrix for Discriminant Analysis

Actual group	Percentage correct	Classified placed	Classified nonplaced
Placed	62.1	41	25
Nonplaced	76.0	6	19
Total	65.9	47	44

data as dependent variables. The outcomes or dependent variables selected for analysis were grades completed and income range.

The statistical package used was BMDP (Dixon, 1981), and the program selected was stepwise regression, program P2R (Dixon & Jennrich, 1981). Stepwise regression is a multivariate technique whereby the best possible predictive equation is generated by adding and/or removing predictor variables in steps according to a preset algorithm.

Predictor variables utilized with the dependent or criterion variable of grades completed were: (a) placedness (a dummy variable for group), (b) maleness (a dummy variable for sex), (c) Caucasianness (a dummy variable for race), (d) the total ISC score, (e) the Full-Scale IQ score, (f) age at referral or placement, (g) absences prior to referral or placement, (h) grade-point average prior to placement, (i) the number of biological parents at home, (j) the CAT reading index, (k) the CAT mathematics index, (l) the presence of peers who left school, (m) the presence of siblings who left school, (n) parental educational level, (o) the presence of others with learning problems in the immediate family, and (p) hours worked per week during the last school year.

The first variable to enter the equation was the presence of peers who left school; this variable contributed a multiple $\underline{R}$ of .48 and thus a multiple $\underline{R}^2$ of .23. The variables absences prior to referral or placement and grade-point average prior to referral or placement were added in succeeding steps and contributed small multiple $\underline{R}^2$ values of .10 and .06, respectively. The resultant equation had a final multiple $\underline{R}^2$ of .39, and so predicted or accounted for about 39% of the variance on the criterion variable, grades completed. An $\underline{F}$ value of 18.4 for 3 and 87 degrees of freedom far exceeded the critical $\underline{F}$ value of 4.0 necessary for significances at $\underline{p} < .01$. Table 18 presents a summary of this analysis.

The same set of predictor variables as used with the criterion variable of grades completed was used for the criterion variable of income range, except two additional predictors, elapsed time since leaving school and retentions were added.

The first variable to enter the equation was placedness, the dummy variable for group membership; this variable had a multiple $\underline{R}$ of .25 and contributed a multiple $\underline{R}^2$ of .06. The second and last variable to enter the equation was grade-point average prior to referral or placement. This variable contributed a multiple $\underline{R}^2$ of .07 so that the full equation attained a

Table 18

Summary of Multiple Regression, DV = Grades Completed

Number of variables	Variables entered by step	Multiple R	MR^2	Increase in MR^2	F-to-enter
17	Step 1: Peer withdrawals	.48	.23	.23	26.2
	Step 2: Absences prior to referral	.57	.32	.10	13.0
	Step 3: Average prior to referral	.62	.39	.06	8.7

Note. F ratio (3, 87) = 18.4; $p < .01$.

multiple R^2 of .13. Therefore, this equation predicts about 13% of the variance on the criterion variable, income range. The F value of this equation was 6.4. This exceeded the critical F value for 2 and 88 degrees of freedom, of 4.9 needed for significance at $p < .01$. Table 19 is a summary of this analysis.

Summary of the Multivariate Analyses

The discriminant analysis showed that a statistically significant difference ($p < .01$) existed between the placed and nonplaced groups, with this distinction being defined by two variables, retentions, and the presence of others with learning problems in the family. The Wilks' Lambda was high and indicated that only about 14% of the variance was explained, so the practical significance may be limited.

Two stepwise multiple regression equations were constructed for the criterion variables of grades completed and income range. The solution for the grades completed equation indicated that the presence of peers who had left school was a strong predictor of criterion, with absences prior to referral and grade-point average prior to referral being lesser predictors. Taken together, the three predictors accounted for or predicted 39% of the variance on the criterion. The F ratio for this equation was significantly well beyond the $p < .01$ level.

Table 19

Summary of Multiple Regression, DV = Income

Number of variables	Variables entered by step	Multiple R	MR^2	Increase in MR^2	F-to-enter
20	Step 1: Placedness (Group)	.25	.06	.06	5.9
	Step 2: Average prior to referral	.36	.13	.07	6.6

Note: F ratio (2, 88) = 6.4; $p < .01$.

The second stepwise regression produced a less strongly predictive equation for the criterion variable of income range. Group membership was found to be predictive of the criterion variable, income, with grade-point average prior to referral or placement adding about the same degree of predictive ability. The resultant combination of predictors accounted for about 13% of variance on the criterion, income range. The F ratio for this equation was also significant at the $p < .01$ level. The inclusion of group membership as a predictor of income could indicate that group differences still exist long after referral or placement and tends to support the conclusion of the discriminant analysis that the placed and nonplaced groups differed, at least on some variables.

DISCUSSION, CONCLUSIONS, AND IMPLICATIONS

Introduction

The conclusions derived from the results of this study should be interpreted cautiously due to the possibility that the final sample of 100 persons may not have been representative of the entire population of 455 former students who met the criteria for inclusion in the study. There may have been considerably different outcomes among those who refused to participate in the study or

could not be located. Therefore, the best interpretation of the results is that they might represent a bias in the direction of positive outcomes.

Background Data

The background data obtained from special education files and permanent records provided a broad spectrum of information regarding the sample members during their school careers. One unusual finding was that the identification of a student as learning disabled left almost no indication on the student's permanent records. Few schools made any note on the permanent record to indicate whether a class was taught in the regular program or within the learning disabilities program; only by checking teachers' names could it be determined which person had, in fact, attended learning disabilities classes. While this finding might tend to alleviate parental concern about the long-term effects of labelling, it makes follow-up research more difficult.

General demographic characteristics. The most obvious characteristics of the sample were with respect to sex and race; the group was heavily weighted with males (69%) and whites (92%). Differences in placement rate for sex did not seem to be as great as the differences evidenced for race; 7 out of 8 blacks (87.5%) identified as learning disabled were placed in learning

disabilities classes as opposed to 74% of the whites who were placed.

Socioeconomic and familial situations. In general, the members of the sample came from lower-middle class and upper-lower class families in which there were three or four children. There was a surprisingly large number (83%) of persons from homes with both biological parents present. This figure may be an artifact of the sampling procedure, since divorced persons might tend to be more mobile than those who have remained married.

One familial factor did prove to be statistically significant in discriminating between the placed and nonplaced groups; the presence of additional persons with learning problems in the immediate family was found to be predictive of placement. Just one-half of the placed group came from families with someone in addition to the respondent who experienced learning problems in school, while only 20% of the nonplaced group reported the same condition.

Indicators of educational adjustment and progress. The sample represents some of the first students to be identified as learning disabled in the Lauderdale County system; as a result, they were not identified until they were 10 to 15 years old and in grades 5 through 11. The duration of placement for most of the students was short; almost 80% had two or fewer years enrollment. Again, the

reason for such short placements might have been the newness of the learning disabilities program. Many schools had programs through only the elementary grades, or, at most, through the junior high grades. Those students who were identified first in the upper elementary grades thus soon outgrew the program by advancing to grades for which there were no services.

Two fairly direct measures of school adjustment are absenteeism and grade-point average. There was a trend toward increased absenteeism with the passage of time, regardless of status as placed or nonplaced. On the other hand, grade-point average increased for both groups. The nonplaced group made better grades both prior to referral and subsequent to referral; however, the placed group closed the gap considerably in the two years after placement. The tendency of the placed group to have more absences and to make lower grades prior to referral may be indicative of factors which might have influenced the placement committee to place some students and not others. The relatively higher grades and lower absenteeism figures of the nonplaced group may have been interpreted by the placement committee as being indicative of greater coping ability as compared to those who were placed. Both absenteeism and grade-point average were found to be predictive of last grade attended, and grade-point average was predictive of current income range;

these facts lend support to their use as measures of coping ability.

Grades are obviously related to retentions, so it was not surprising that about 44% of the sample failed at least one grade; again, less coping ability was evidenced by the placed group, who were retained at about twice the rate of the nonplaced group. The number of retentions was found to be a major contributor to the discriminant function which best separated the sample statistically into placed and nonplaced groups.

Psychometric indicators of ability and achievement. Overall the sample exhibited intellectual characteristics similar to those described by Smith, Coleman, Dokecki, and Davis (1977) as the "high IQ" subgroup, in that Verbal IQ ($\bar{X}$ = 93.4) was somewhat lower than Performance IQ ($\bar{X}$ = 96.6). The placed group tended to have higher Performance IQ's ($\bar{X}$ = 97.9) than Verbal IQ's ($\bar{X}$= 93.3), while the nonplaced group had higher Verbal IQ's ($\bar{X}$ = 94.0) as compared to Performance IQ's ($\bar{X}$ = 92.6). Sattler (1982) noted that learning disabled persons with higher Performance IQ's than Verbal IQ's tended to be poorer readers than those with the reverse pattern of Verbal IQ greater than Performance IQ; the latter tended to have greater neurological problems and poorer "constructional ability" (p. 403). Among this sample, the Sattler generalization concerning reading was correct

in that the placed group had a slightly lower reading achievement index than did the nonplaced group, and the placed group also had their lowest mean achievement index in reading.

Achievement test results for the whole sample indicated that achievement varied relatively little across content areas. The lowest mean index was the nonplaced group's language index of 55 and the highest was the nonplaced group's mathematics index of 66. There was very little difference between groups; yet, as noted previously, the placed group obtained a considerably lower grade-point average prior to placement when compared to the nonplaced group. These results lend credence to the hypothesis that the placement committee assessing the students had personal knowledge of them and were basing placement decisions, at least in part, upon some evaluation of the students' coping skills.

There are several possible explanations of how the assessment of coping skills might have operated. First, there is the possibility that the placed students were interpreted as poorer readers than those students not placed. Reading was the weakest area of achievement for the placed group, and they scored slightly lower in reading than did the nonplaced group. Johnson, Blalock, and Nesbitt (1978) conducted a follow-up study of adolescents formerly served in a clinical setting; they

observed that, "a cursory examination of the records indicates that children with decoding problems are more likely to receive remediation than those with problems in written language or mathematics" (p. 25). It is, perhaps, coincidental that the lowest achievement scores for the nonplaced group were in language and spelling. In any case, a severe reading deficit, either perceived or real, would constitute a severe coping problem, as viewed by members of the placement committee.

A second possible explanation of the assessment of coping ability might be the existence of differences in behavior which biased placement personnel against certain students who evidenced such behavior. Such a situation might be an operational example of the "instant diagnosis" phenomenon demonstrated experimentally by Bryan (1978).

A third possible explanation of the coping skill deficit hypothesis is the concept of the "inactive learner" described by Torgeson (1977, 1980). According to this model, the disabled learner has adequate skills and knowledge in many cases, but can neither spontaneously nor efficiently utilize them. This explanation seems to be the most attractive of the three, since it explains why students with the same general level of intelligence and achievement might have very different grade-point averages and make differential progress through the

educational system. Thus, operationally, the placement committee may have sensed that the placed group should have been functioning better in school than they were; in effect, the placed group evidenced not so much a discrepancy between tested ability and tested achievement, as a discrepancy between expected performance and demonstrated achievement.

Vocational training and work experience. Over one-half of the sample availed themselves of vocational training while in high school and almost one-half had at least two years of vocational training. Sample members were enrolled in 20 of 21 programs offered at the area vocational school, the exception being electricity. Over one-half of the sample also worked at least 10 hours per week during their last year in high school. Touzel (1978) conducted a Delphi probe of national experts in curriculum development for the learning disabled; the survey results indicated that career and vocational training should constitute a major focus of secondary curriculum for the learning disabled. Thus, the sample members apparently received an appropriate exposure to vocational training while in high school. Vocational preparedness was also enhanced by participation in real-life work situations to the considerable degree that was reported.

Educational persistence and withdrawal factors. The sample experienced a high (42%) dropout rate. The presence of close friends or siblings who withdrew could be factors which might stimulate dropping out; however, about 70% of the sample had no sibling dropouts and over 60% had no close friends who dropped out. The presence of peer withdrawals was, however, found to be predictive of early school withdrawal. The influence of peer dropouts upon learning disabled adolescents may be unusually great, because Bryan, Werner, and Pearl (1982) demonstrated that learning disabled junior high students were more willing than nonlearning disabled students to conform to peer pressure leading to antisocial acts.

Peer pressure alone would be an insufficient reason for most students, learning disabled or not, to drop out. Actual academic difficulties obviously persisted into high school for most of this sample; the failure to earn the expected 10 Carnegie units by the end of the sophomore year is evidence of such academic difficulty. Hiebert, Wong, and Hunter (1982) reported that the learning disabled adolescents in their study exhibited low academic self-concepts and lessened academic expectations. Such expectations, combined with actual evidence of academic distress, exemplified by failure to advance to the succeeding homeroom grade, may exert an

almost irresistible force on frustrated adolescents, leading to withdrawal from school.

Current Status Data

Current status information was obtained by interviewing participants. Interview answers were cross-checked whenever possible against data from the permanent record files; in these cross-checks only one untruth was uncovered. One young man had misled his wife, a college student, to believe that he had graduated, even though he had not. In order not to be unmasked before his wife, he maintained this fiction with the investigator. It was later discovered that he had only nine years of education. The high correlation between the verifiable answers from interview quesitons and data obtained from other sources suggest that a very high percentage of the answers were truthful. Overall, it was somewhat surprising that interviewees seemed willing to discuss very sensitive and possibly painful subjects with the investigator and remain truthful.

Adjustment to adult roles. Assessments of marital status, residential independence, financial independence, and decision-making independence indicated that, in general, the sample members were adjusting quite well to adult life and its concomitant responsibilities. Nearly one-half the sample had married, and only 4% had divorced. It was found that spouses of sample members compared very

closely to sample members in educational attainment, as measured by grades completed. While data were not systematically collected on this point, it appeared from comments made by interviewees that wives of the learning disabled males were better students than their husbands. In fact, one young man was married to a class valedictorian. Several young men reported that their wives had helped them to read better and to manage their finances better than they had prior to marriage. Thus, marriage seemed to exert a stabilizing, positive influence on the lives of the sample members. Other researchers (ACLD, 1982; White et al., 1980) found much lower incidences of marriage among samples of comparable age; these studies reported that only 6.3% and 6.4%, respectively, of their samples had married. Thus, persons in the present sample were married about seven times as frequently, with 45% having married. Such a high rate of marriage may reflect local trends toward early marriage, or it may be explained partially by the sampling bias toward stable or less mobile persons.

Marital status clearly is related to residential independence. Of the 46 persons not living with parents, 40 were or had been married. The six single persons not living with parents were all male, and five of those not living with parents had their own homes on land provided by their parents and adjacent to their parents' homes.

The recent ACLD survey reported that only 20% of the 21-24 year olds were living independently; this rate is only about one-half that found in Lauderdale County and is probably a reflection of the higher rate of marriage reported in this study.

Interviewees reported considerable residential independence, but financial independence was even more marked, with about 78% stating that parents contributed less than 20% of the interviewee's yearly income. Only 12% received 80% or more of their incomes from parents. The ACLD study reported that 38% of the 21- to 24-year-old respondents still were supported by their parents. Thus, the participants in the current study appear to be functioning quite well with respect to securing the minimum finances needed for independent living.

Decision-making behaviors of the sample were less consistent than measures of financial independence. While 46% of the sample affirmed that they seldom or never consulted parents when making decisions, 26% stated that they frequently or always consulted their parents, and an additional 28% did so occasionally. These data are difficult to evaluate in that those who never consult with parents might not represent those who are best able to make decisions; rather, they undoubtedly include many who wish to show their independence from parents at all costs. This attitude and its possible consequences were clearly depicted by one young man who,

when asked to describe how frequently he consulted with parents about decisions, replied, "Never. That's why I'm in the shape I'm in." The other extreme of frequently or always getting parental advice does not represent a clearly adult position, but it may be more adaptive than never seeking decision-making help. In this case, the 28% who occasionally seek parental advice may be the best adjusted to adult life, since they neither totally reject nor totally rely upon advice from parents.

Overall, the measures of adjustment to adult life give a favorable impression of the sample. There were no major differences between the placed and nonplaced groups, but the small differences which did exist were usually in favor of the nonplaced group.

Employment and occupational data. The young adults in this sample generally reported little difficulty in obtaining and holding jobs; however, the jobs which they held frequently yielded low incomes. The 87% employment figure compares well with rates reported by the 1982 ACLD study (42%), the 1980 White et al. investigation (77%), and the very recent Frauenheim and Heckerl (1983) study (73%). During the time of the study, the Lauderdale County unemployment figures were among the highest in the state, so the persons identified as learning disabled had a much better employment rate than the county in general (15.1%) and their age group in particular

(estimated at 21%). A full 77% of the sample was employed full time and worked for someone other than an immediate relative.

Jobs held by sample members ranged from management to unskilled labor, but the largest proportion worked in production jobs of various types. There was no clear trend to distinguish placed and nonplaced persons according to category of job held. Incomes were generally low, and two out of every three workers earned less than $10,000 per year, although 12% earned over $15,000 per year. There was a clear trend for the nonplaced group to earn more than the placed group; in fact, the best predictor of income range was placement category, with grade-point average prior to placement being the only other significant predictor of income. The income range of samples investigated in other studies is similar. The ACLD survey included 78 respondents in the age range 21-24 years who reported their incomes; of these, 61 (79%) earned less than $10,000 per year. White et al. (1980) reported that 75% of both the learning disabled group and the nonlearning disabled group earned below $10,000; perhaps, then, the learning disabled young adults in Lauderdale County are not earning unusually low incomes for persons of their age.

The duration of currently held jobs showed a mean of 2.1 years, and respondents had held a mean of 2.7 jobs

each. These seem to be very reasonable figures for persons who had been out of school about four years and compare favorably to figures in other studies. The ACLD survey indicated that only 46% of those aged 21-24 ever had held a job for a year or more. White et al. reported a mean duration of current job of just under a year.

Job satisfaction ratings, as might be expected among workers with fairly low incomes, were only moderately positive. However, over one-half (57%) stated that they liked their jobs somewhat or very much, while only 10% disliked their jobs very much. Unlike job duration and number of jobs held, which reflected minor group differences, there were large differences in job satisfaction between groups. The proportion of those who reported that they liked their jobs very much was 60% in the nonplaced group, nearly double that of the placed group (32%). Likewise, the proportion of those who strongly disliked their jobs was three times as high in the placed group, as compared to the nonplaced group. In a similar vein, the ACLD study, which allowed only a dichotomous choice, reported that 60% of those in the 21-24 age group were happy with their jobs, while 40% were unhappy with jobs held by them. White et al. found that learning disabled young adults were rather neutral toward their jobs, while nonlearning disabled persons of the same age were quite positive toward their jobs.

In the present study, income, as opposed to job type, seems to be the key factor in the group differences with respect to job satisfaction. That is, while doing the same general kinds of work, the nonplaced group seems to have acquired jobs at higher paying locations than did the placed group. While data were not systematically collected on this point, labor union members appeared to be minimally represented in the total sample. Skilled workers in nonunion shops tend to make much lower salaries in the area of the state involved in this study. For example, a machinist with vocational college and work experience was making about $4.00 per hour, less than one-half the wages made by a union machinist. From the income ranges reported, as well as the job locations described, it is unlikely that more than 10% of the sample members belonged to unions.

Current perceptions of the former students regarding education. Each participant rated the degree to which each component of his or her education has helped in meeting the demands of adult living. All group members rated regular education, while those who had received such services rated vocational and learning disabilities classes. Considering the difficulties which most of the participants experienced in the regular education setting, it is surprising that 89% of the sample stated that the regular curriculum had prepared them at least adequately.

Over one-half stated that regular education had helped them fairly well, but 5% were very negative in their interpretation of the value of regular education. Nonplaced group ratings were generally higher than those of the placed group.

An obvious interpretation of the rating of regular education is that those who have had greater success in regular education rate it higher; this could account for the group differences. However, many more persons did poorly in regular education than rated it very negatively. This may mean that the student's perception of the value of regular education included factors other than grades. Perhaps the regular curriculum imparted knowledge which was not assessed by grades or which the learning disabled students were unable to use to influence their grades. Affective skills learned in the regular classroom situation also may have proved valuable.

Many respondents were queried as to their opinions on the most negative aspects of their education. The most frequent responses indicated that affective factors were important to learning disabled students. Lack of concern for the student as a person, lack of individual attention, and unwillingness to take the time to ensure that all students understood the lesson were frequently occurring criticisms.

Vocational education was rated by members of both groups who participated in it as more helpful than regular education. About 90% assigned a rating of somewhat helpful or very helpful, and the placed group rated it higher than the nonplaced group. Thus, for those with the more serious academic deficits, the value of vocational education seemed to be greater. The high rating of vocational education was awarded despite the fact that many of the former vocational students currently are employed outside the field for which they were trained. The implication of such a situation is that vocational students learned work behaviors which were transferred easily to other vocational fields. Thus, general work habits learned in vocational school may be as important as skills specific to a certain vocational course of study. Learning such skills may be analogous to the intent of the transitional skills training advocated by Deshler, Schumaker, Lenz, and Ellis (1984) who noted that it is impossible to anticipate every skill needed for every aspect of adult life and still more impossible to find time to teach such skills. They concluded that "a set of generic cognitive skills . . . would allow a person to make decisions, solve problems, set goals, plan for the future and implement and reach goals" (p. 176). Perhaps some such generic

skills already are being taught, but it is possible that they are not being taught purposefully by vocational practitioners.

The placed group rated their perception of the value of the learning disabilities program to them and to their adjustment to adult life. Over 89% rated the learning disabilities class as fairly or very helpful. Only 5% rated the program as preparing them poorly or not at all for adult life. The high rating assigned to the learning disabilities program, the highest assigned by any group to any component of their education, was reinforced by very positive subjective assessments made by the former students during the course of the interviews. It is likely that both affective and cognitive reasons exist for the high ratings assigned to the learning disabilities classes. Students who were placed obtai' ' higher grades in the two years subsequent to placement. Data are not available on the actual mechanism whereby grades were increased. It could be that at least part of the grade increase is attributable to the difference in grades assigned in the learning disabilities class, as opposed to those which were assigned previously in the subject area class from which the student was removed after placement. An alternate explanation is that cognitive and/or behavioral changes were achieved in the learning disabilities classes and these transferred to other areas.

It is, however, likely that former students rated the learning disabilities classes highly because of factors in addition to higher grades. The interviewees mentioned the caring attitude of the teachers, the individualization, and the slowed pace of presentation as reasons why the classes helped them; reading improvement was the most often cited academic benefit.

A recent study by Battle and Blowers (1982) investigated the longitudinal effect of special class placement on self-esteem among learning disabled and educable mentally retarded students. They found that those students made significant gains in measures of self-esteem and perception of their own ability over a three-year period. It would seem likely that many of the persons in the present study made such gains and reflected them in their rating.

While no testing was done to determine current reading levels, each former student was asked to rate his or her reading ability as compared to the demands of work and everyday living. Overall, 68% reported that they seldom or never experienced reading problems as adults; on the other hand, 5% stated that they always had problems. Predictably, the nonplaced group acknowledged fewer reading problems as adults, as compared to the placed group. This implies that the coping skills differential between the two groups continues to exist

with respect to reading. However, there appeared to be a subgroup of poor adult readers within each group. Trites and Fiedorowicz (1976) conducted a follow-up study of poor readers and concluded that those with specific reading disabilities would suffer a poorer prognosis than students whose poor reading reflected cultural disadvantage or lack of motivation. Thus, it might be that the continued poor reading of some subjects, as opposed to others, reflects a difference in causation.

The seemingly contradictory outcomes of the currently adequate readers and the currently poor readers have been reported previously. Ackerman, Dykman, and Peters (1977), Frauenheim (1978), Frauenheim and Heckerl (1983), and Muehl and Forell (1973-74) are among researchers who have reported largely pessimistic outcomes with respect to reading improvement. Herjanic and Penick (1972), Rawson (1968), and Silver and Hagin (1964) have reported mixed results, with some subjects attaining average reading skills and some not progressing. Balow and Bloomquist (1965) and Robinson and Smith (1962) presented basically optimistic outcomes for their samples.

Recently, Horn, O'Donnell, and Vitulano (1983) have discussed the difficulty in comparing and summarizing such follow-up studies. Perhaps the results of the current study reflect a synopsis of reading remediation outcomes: some students make good progress and some make very little.

One explanation might be that the sample in the present study was composed of a large proportion of mildly learning disabled persons and a small proportion of quite seriously learning disabled persons. Such a nested subpopulation paradigm has been proposed for the entire learning disabled population (Poplin, 1981). The degree of remediation exhibited by the subjects of a study, then, would vary with the degree to which the severely learning disabled subpopulation was sampled.

Educational experience since high school. Only 31% of the sample obtained any education or training after leaving high school. Over one-half of these 31 persons completed only one or two semesters of postsecondary work. Most of the 31 persons who attempted additional training past high school were from the placed group. By far the largest portion of the group who had post-high school training attended vocational/technical colleges and junior colleges. Only four persons attended universities, but one completed a pre-engineering program and hoped to complete a bachelor's degree.

Several other studies gave some information on the postsecondary education of their sample. The ACLD survey (1982) reported that 53% of the group had completed at least some college work. Fafard and Haubrich (1981) noted that about 43% of their sample had enrolled in vocational colleges, universities, or

other postsecondary institutions. Rawson (1968), who dealt with a high IQ ($\bar{X}$ = 131), high SES sample, found that the mean number of years of college work for the sample was almost six years. Cordoni (1982) pointed out that "Educators and parents must be made aware that vocational programmming is not the only viable option for the LD adult. The student's interests and goals should be the determining factor in future programming" (p. 266). Thus, while some learning disabled students have the ability to do college work, few institutions have supportive programs tailored to the learning disabled student. This being the case, junior colleges and vocational colleges seem to be reasonable sources of postsecondary training for the majority of learning disabled students who desire further education. It would seem unreasonable to expect large numbers of persons with backgrounds similar to those in the current study to seek university degrees.

Relationship to the legal justice system. There were 19% included in the sample who had been arrested but only 12% had been convicted. Only one person (1%) had been sentenced to jail as a result of conviction. Another 5% had received over 5 traffic tickets, but 76% had never been arrested and had fewer than 5 traffic violations on their record. The ACLD survey (1982) reported that only 9% of those aged 21-24 in the sample had been

convicted of crimes. White et al. (1980) found that 13% of the learning disabled sample had been arrested, as compared to 12% of the nonlearning disabled group, and only 4% of the learning disab'ed group had served a jail or prison sentence.

It is beyond the scope of this study to comment upon the alleged juvenile delinquency-learning disability link. The juvenile arrest record of the respondents was not probed, and little is known concerning the relationship of subjects to the juvenile justice system.

Implications for Education and Research

This study was conducted under operational constraints which limit the degree to which generalization can be made and implications considered. These limitations included the following:

1. Inability to locate all persons who were randomly chosen, necessitating replacement.

2. Logistical realities which precluded interviewing persons who lived and worked outside the immediate area.

3. Necessity to use group achievement data. Even if records had been preserved, there was no common test in use, and comparisons would have been difficult to interpret.

4. Incomplete data. A number of individuals had incomplete CAT scores due to absences during testing.

5. No posttesting during follow-up. It was thought that posttesting would decrease willingness to participate, as well as dramatically increasing the amount of time expended on each interview.

All of the above combine to cause one to question the degree to which the sample is truly representative of all persons in the available population. The degree to which the Lauderdale County population is representative of all learning disabled young adults is certainly a moot point, so any generalization of results beyond the sample group should be made and interpreted with caution. However, many of the restrictions on this study are inherent in the concept of a follow-up study using existing groups.

Implications for Research

The best way to increase the confidence in the results of any study is replication; consequently, the most important need for further research is replication. Replication with a similar population would test the validity of the concept, as well as yield information on the reliability of the procedures. Replication with varying populations would aid generalization of results to larger portions of the spectrum of learning disabled persons.

A second implication of concern to researchers is the apparent situation wherein students with very similar intellectual abilities and achievement test results

exhibit differential outcomes with respect to both academics and adult employment. It was shown by the results of this study that the group which was placed in special education classes made poorer grades before placement and, as adults, earned smaller incomes than did the nonplaced group. The results suggest that research be instituted which might detail the specific coping skills exhibited by successful learning disabled persons, as opposed to less successful learning disabled persons.

Another possibly fruitful problem for research is the effect of SES on parental expectations for learning disabled adolescents and adults. The investigator's subjective impression of the parents of sample members is that they were largely satisfied with the status of their sons and daughters. Likewise, they did not express dissatisfaction with the type of work done by their children, even though it was sometimes menial. Upper-middle class parents scarcely could be expected to have similar views. Should such speculation be borne out, it would be useful to compare parental expectations and outcomes using several different SES levels, but controlling for ability level.

A final area of interest to researchers might be the effect of marriage on coping skills of learning disabled adults. The role of the spouses of learning disabled

persons, with respect to enhancing or eroding coping skills and occupational habits, also should be the focus of inquiry.

Implications for Education

The most obvious implication for educators is that learning disabilities can and do persist well beyond the school years for some persons. The characteristics of those persons who exhibit persistent disabilities should be identified, and an effort made to provide those persons evidencing such characteristics with training in compensatory and alternative coping strategies.

Educators should be made aware of the factors which might lead learning disabled students to drop out. Data should be collected on the presence of siblings and peers of learning disabled students. For persons who appear to be at risk of dropping out, special strategies need to be developed to educate the potential dropouts regarding the effects of their decisions. For those who avow the unalterable intent to dropout, transition training should be provided and the procedure for getting a GED should be discussed. Once a student has withdrawn, his name should be given to adult education personnel for contact.

Adult education personnel should be made aware of the needs and characteristics of learning disabled adults. A procedure should be established whereby adult education

programs might be provided with test data on learning disabled adult students, with the consent of the learning disabled persons, of course. Learning disabilities supervisors should be made aware of the success rate of learning disabled adults who attempt the GED test; in this way, a data base for counseling potential dropouts could be established, and a correlation between success on the GED and demonstrated ability and achievement of former students could be carried out. By the latter, additional counseling data would be generated, and a potential dropout could be informed of his or her probability of successfully obtaining a GED at a given level of achievement.

Regular education personnel, especially classroom teachers, should be informed regarding the possibility that unusual behaviors of learning disabled students might bias the assignment of grades. The fact that the placed group, despite having abilities and skills very similar to those of the nonplaced group, made poorer grades than did the nonplaced segment may indicate differential grading based upon behaviors.

Vocational education should be offered to all learning disabled students who desire it. The sample members who had experience in vocational classes were very positive in their assessment of the vocational training. Severely learning disabled students should

have the option of early entrance into vocational school. Age and/or grade requirements should be waived for severely learning disabled persons, and possibly for less seriously disabled persons who exhibit the potential for dropping out. Ninth-grade placement in vocational school would be very desirable for such persons.

Finally, employers, employment agencies, and labor unions should be informed of the nature of learning disabilities. Unnecessary tests of literacy or unjustified reading requirements should be discouraged and probationary periods of trial employment should be encouraged for applicants with depressed reading levels. On-the-job training programs should include alternate procedures for those unable to meet job requirements because of reading difficulty.

Assumptions and Limitations

There are several design, procedural, and circumstantial limitations in this study. First, the design is a retrospective follow-up study, which by its nature necessitates the use of previously existing groups. While apparently equivalent on measures of intelligence and achievement, the placed and nonplaced groups in this study had been created by the use of criteria or the application of standards which attempt to exclude persons not meeting those criteria. That is, by the nature of the placement process, a decision about the exceptionality of individuals

is made which assumes that there are real differences between those persons who are placed and those persons who are not placed. Thus, there is little likelihood that the two groups are truly equivalent due to the original lack of random assignment.

Procedural matters imposed other limitations. By accepting only those persons who could be located in the immediate area and who would agree to participate, the investigator opened the study to possible bias toward more positive outcomes.

Another procedural matter was the assumption that grade-level scores on the California Achievement Test could be manipulated by dividing by expected grade level without affecting the reliability of the scores. This assumption makes it possible that the resulting index scores might have a lower reliability than the original scores.

Finally, the circumstances imposed by utilizing a rural population seriously affects the generalization of results. Clearly, there could be marked differences in results if a different, more urban, sample had been utilized. These limitations and assumptions must be considered, both individually and collectively, when assessing the results obtained in this study.

Summary

This study described the current status of young adults who were identified as learning disabled while students. The overall impression presented by the data is that these

persons are fulfilling their adult roles quite well; they are, by and large, decent, productive citizens. Some sample members, however, still suffer from symptoms of their disability; poor reading ability is the most common problem.

The generally optimistic character of the results should be tempered with caution, however, The sample may have reflected a bias toward the inclusion of unusually successful persons. In any case, any generalization of these results must be accompanied by the realization that the sample comes from a largely rural, lower-middle class/upper-lower class background, and that far different outcomes might be expected from those of different socioeconomic status.

Elementary school children have been the primary focus of research and services until recent years. Concern for the needs of adolescents who continued to experience learning difficulties during their junior high and high school years has stimulated interest in the post-school status of learning disabled young adults.

Research concerning the status and characteristics of learning disabled young adults was largely nonexistent until very recent years. From the late 1970s until the present, the few follow-up studies which have been conducted have limited themselves primarily to assessing the academic capabilities of young adults The White et al. (1980) investigation was an initial effort to examine a multiplicity of current status indicators. There appears to be a need for

an investigation which details both the background and current status of learning disabled young adults.

The purpose of this study was to describe the post-school status of young adults who were identified as learning disabled while enrolled in the Lauderdale County, Alabama, school system, with respect to nine clusters of outcome or criterion variables. Secondary goals of the study were, first, to compare the backgrounds and current status of the placed and the nonplaced groups in the sample; and second, to investigate the predictive ability of background variables with respect to selected outcome or criterion variables.

The sample for this study consisted of 100 young adults born before 1964 who were identified by officials of the Lauderdale County Board of Education as learning disabled according to then-current criteria established by the Alabama State Department of Education. The sample total of 100 persons included 25 who were identified as learning disabled but not placed in classes for learning disabled students; the remaining 75 persons were identified and placed in learning disabilities classes.

The variables selected for use included both those suggested by a review of the literature and others which apparently had not been utilized previously. Data sources were special education records, pupil permanent records, and interviews with each subject. A wide variety of both background and current status data was collected and analyzed using appropriate descriptive and multivariate techniques.

The descriptive analysis of background data indicated that the sample as a whole was largely male and white and represented a lower-middle and upper-lower socioeconomic status. The respondents had experienced considerable academic difficulties while in school, with achievement scores ranging from 55% to 66% of expected grade placement. Even though the placed and nonplaced subgroups differed very little on other measures, the placed group made relatively poorer grades when compared to the nonplaced group. Overall, the placed group seemed to evidence poorer coping skills while in school than did the nonplaced group; this fact appears to have been a factor in the placement decision. A discriminant analysis indicated that the number of retentions and the presence of others in the family who experienced learning problems determined the discriminant function which maximally differentiated the placed and nonplaced groups.

Current status indicators showed the sample to be functioning quite well as adults. A large proportion of sample members were married and nearly one-half were living away from their parents' homes. Most of the sample were not dependent upon parents for financial or decision-making assistance, and 87% were employed. A wide variety of job types were represented, but the largest occupational group was employed in production jobs. Overall, the incomes reported were somewhat low, with two out of three

earning less than $10,000 per year; however, sample members indicated that they were moderately happy with their employment.

A large share, almost one-half, of the sample failed to graduate from high school, and only a few dropouts have completed a GED program. Many of the respondents have obtained post-high school training and education; vocational colleges and junior colleges were the most utilized means of getting additional education.

The great majority of interviewees reported that they no longer experienced a significant problem in reading, but a small segment (5%) reported that they always had problems with their reading as adults. A generally favorable attitude was expressed toward the value of the regular curriculum as preparation for adult living. Much more positive ratings, however, were given to vocational education and learning disabilities classes by those who participated in them.

Multiple regression techniques were employed to determine which background variables were most useful as predictors of selected criterion variables. With respect to grades completed, the best predictors were the presence of at least one dropout among the respondent's five closest school friends, the number of absences prior to referral and grade-point average prior to referral; about 39% of the variance was explained by this combination of

predictors. The best predictive combination with reference to current income range included group membership, as placed or nonplaced, and grade-point average prior to referral. This aggregation produced an equation which accounted for only about 13% of the variance, however.

The results of this study indicate that, overall, the members of this sample are functioning quite well as adults, although the symptoms of a learning disability have persisted as an adult reading impairment for some persons. In addition, the selection of predictor variables available was found to contain several variables which are significantly predictive of grades completed and adult income range.

The findings of this investigation have several implications for research; the first is the need to replicate the study with different populations representing different characteristics such as IQ and SES. Such replication should extend the applicability of the conclusions as well as open up useful avenues of study involving differences in outcome. A second implication for researchers is the need to identify and detail the coping skills which influenced the placement decision as well as brought about different outcomes among persons with apparently similar intellectual abilities and academic skills. A third implication for research is the relationships among SES, parental expectation, and outcomes

such as employment. The parents of this relatively low SES sample appeared to have held fairly low expectations for their children and did not seem disappointed with the rather low incomes of their children. Data were not collected systematically on this point, but the comparison with results reported by other studies, especially Rawson (1968), suggest that there might be a relationship among SES, parental expectation, and outcome. The final implication for research is the need to study the effect of marriage on outcomes of learning disabled adults. Sample members who were married often reported anecdotally that marriage was beneficial to them. The dynamics of their improved situation, should it be actual, deserve study.

Implications for educators include the need to identify those students who exhibit characteristics indicative of persistent learning difficulties. Those persons, obviously, would require more intense and more lengthy services than the less seriously disabled. Educators also should become aware of the characteristics of potential dropouts, in order to counsel them and provide transitional services for those who are adamant in their desire to dropout.

Educators, especially regular classroom teachers and placement committee members, should become aware that differential treatment may result from observing differing

behaviors of persons with essentially similar intellectual and academic abilities. Such differential treatment could be an explanation of the group differences in grade-point average prior to placement, and thereby, an explanation of the placement of some students, but not others.

Vocational educators should become acquainted with the results of this study which depict the great importance which many respondents attached to vocational training. If possible, learning disabled students should receive preference in placement at vocational facilities, ideally in the ninth grade.

Finally, results indicate that employment opportunities for learning disabled persons are limited not so much by job type as by employment location. That is, the learning disabled persons seem restricted to less desirable employment situations, primarily those without labor unions. Educators should determine the prevalence of unjustified reading requirements as prerequisites to employment or union membership, and then work to have such requirements waived for otherwise qualified, learning disabled young adults. Trial employment might be an alternative to passing literacy requirements in such situations.

REFERENCES

Abbott, R. C., & Frank, B. F. A follow-up of LD children in a private special school. Academic Therapy, 1975, 10, 291-298.

Ackerman, P. T., Dykman, R. A., & Peters, J. E. Teenage status of hyperactive and nonhyperactive learning disabled boys. American Journal of Orthopsychiatry, 1977, 47, 577-595.

Alabama State Department of Education. Program for exceptional children and youth: Alabama state plan (Bulletin No. 8, revised). Montgomery, AL: Author, 1973.

Alabama State Department of Industrial Relations. Lauderdale County, Alabama, census data. Montgomery, AL: Alabama state Department of Industrial Relations, Alabama State Employment Service, Research and Statistics, 1983.

Alabama State Department of Industrial Relations. December, 1983, preliminary unemployment data. Montgomery, AL: Alabama State Department of Industrial Relations, Alabama State Employment Service, Research and Statistics, 1984.

Alley, G. R., & Deshler, D. D. Teaching the learning disabled adolescent: Strategies and methods. Denver, CO: Love, 1979.

Ames, L. B. Learning disabilities: The developmental point of view. In H. Myklebust (Ed.), Progress in learning disabilities (Vol. 1). New York: Grune & Stratton, 1968.

Association for Children with Learning Disabilities. Preliminary report of the ACLD vocational committee survey of LD adults. ACLD Newsbriefs, July/August 1982, No. 145, pp. 20-23.

Balow, B., & Blomquist, M. Young adults ten to fifteen years after severe reading disability. Elementary School Journal, 1965, 66, 44-48.

Barber, B. Social stratification: A comparative analysis of structure and process. New York: Harcourt, Brace, & World, 1957.

Bateman, B. Learning disorders. Review of Educational Research, 1966, 36, 93-119.

Battle, J., & Blowers, T. A longitudinal comparative study of the self-esteem of students in regular and special education classrooms. Journal of Learning Disabilities, 1982, 15, 100-102.

Berston, H. M. The school dropout problem. Clearinghouse, 1960, 36, 93-119.

Blalock, J. W. Persistent problems and concerns of young adults with learning disabilities. In W. M. Cruickshank & A. A. Silver (Eds.), Bridges to tomorrow (Vol. 2): Selected papers from the 17th international conference of the Association for Children with Learning Disabilities. Syracuse, NY: Syracuse University Press, 1981.

Bloom, B. S. Stability and change in human characteristics. New York: John Wiley & Sons, 1964.

Bluestein, V. W. Factors related to and predictive of improvement in reading. Psychology in the Schools, 1967, 4, 272-276.

Bowman, P. W., & Hoffman, J. L. An investigation of factors contributing to successful and non-successful adjustment of discharged retardates. Pownal, ME: Pineland Hospital and Training Center, 1969. (ERIC Document Reproduction Service No. ED 043 152)

Braunberger, A. H. An analysis of selected variables affecting the reading growth rate of learning disability children. Unpublished doctoral dissertation, dissertation, Brigham Young University, 1976. (ERIC Document Reproduction Service No. ED 147 769)

Brown, M. B. Frequency tables: P4F. In W. J. Dixon (Ed.), BMDP statistical software. Berkeley, CA: University of California Press, 1981.

Bryan, T. H. Social relationships and verbal interactions of learning disabled children. Journal of Learning Disabilities, 1978, 11, 58-66.

Bryan, T. H., Werner, M., & Pearl, R. Learning disabled students' conformity responses to prosocial and antisocial situations. Learning Disability Quarterly, 1982, 5, 344-352.

Buerger, T. A. A follow-up of remedial reading instruction. Reading Teacher, 1969, 21, 329-334.

Coplein, L. E. Techniques for study of dropouts. Clearinghouse, 1962, 36, 526-530.

Cordoni, B. K. Postsecondary education: Where do we go from here? Journal of Learning Disabilities, 1982, 15, 265-266.

Cox, S. The learning disabled adult. Academic Therapy, 1977, 13(1), 79-86.

Cronin, M. E., & Gerber, P. J. Preparing the learning disabled adolescent for adulthood. Topics in Learning and Learning Disabilities, 1982, 2, 55-68.

Cruickshank, W. M. The brain-injured child in home, school, and community. Syracuse, NY: Syracuse University Press, 1967.

Cruickshank, W. M. Learning disabilities in home, school, and community (Rev. ed.). Syracuse, NY: Syracuse University Press, 1977.

Cruickshank, W. M., & Silver, A. A. (Eds.). Bridges to tomorrow (Vol. 2): Selected papers from the 17th international conference of the Association for Children with Learning Disabilities. Syracuse, NY: Syracuse University Press, 1981.

Cullinan, D., & Epstein, M. H. (Eds.). Special education for adolescents: Issues and perspectives. Columbus, OH: Charles E. Merrill, 1979.

DeBottari, L. Primary school correlates of secondary school achievement. Personnel and Guidance Journal, 1969, 47, 675-678.

Deshler, D. D. Issues related to the education of learning disabled adolescents. Learning Disability Quarterly, 1978, 1, 2-10.

Deshler, D. D., Schumaker, J. B., Lenz, K., & Ellis, E. Academic and cognitive interventions for LD adolescents: Part II. Journal of Learning Disabilities, 1984, 17, 170-179.

De Wet, J. J. The influence of different sets of predictor variables on the identification of learning disabled children and on factors associated with learning disability. Paper presented at the Annual Meeting of the American Educational Research Association, Los Angeles, 1981. (ERIC Document Reproduction Service No. ED 203 641)

Dixon, W. J. (Ed.). BMDP statistical software. Berkeley, CA: University of California Press, 1981.

Dixon, W. J., & Jennrich, R. I. P2R: Stepwise regression. In W. J. Dixon (Ed.), BMDP statistical software. Berkeley, CA: University of California Press, 1981.

Edgington, R. E. SLD children: A ten-year follow up. Academic Therapy, 1975, 11(1), 53-64.

Elliott, D. S., Voss, H. L., & Wendling, A. Capable dropouts and the social milieu of the high school. Journal of Educational Research, 1966, 60, 180-186.

Fafard, M., & Haubrich, P. A. Vocational and social adjustment of learning disabled young adults: A follow up study. Learning Disability Quarterly, 1981, 4, 122-130.

Feldhusen, J. F. Prediction of achievement with measures of learning, social behavior, sex, and intelligence. Paper presented at the annual meeting of the National Council on Measurement in Education, New Orleans, March 1, 1973. (ERIC Document Reproduction Service No. ED 076 600)

Feldhusen, J. F., Thurston, J. R., & Benning, J. J. Longitudinal analyses of classroom behavior and school achievement. Journal of Experimental Education, 1970, 38(4), 4-10.

Ferguson, G. A. Statistical analysis in psychology and education (5th ed.). New York: McGraw-Hill, 1981.

Frauenheim, J. G. Academic achievement characteristics of adult males who were diagnosed as dyslexic in childhood. Journal of Learning Disabilities, 1978, 11, 476-483.

Frauenheim, J. G., & Heckerl, J. R. A longitudinal study of psychological and achievement test performance in severe dyslexic adults. Journal of Learning Disabilities, 1983, 16, 339-347.

French, J. L. Characteristics of high ability dropouts. Bulletin of the National Association of Secondary School Principals, 1969, 53, 67-79.

Frostig, M. Education for dignity. New York: Grune & Stratton, 1976.

Gallagher, J. J. Children with developmental imbalances: A psychoeducational definition. In W. M. Cruickshank (Ed.), The teacher of brain-injured children. Syracuse, NY: Syracuse University Press, 1966.

Gearheart, W. R. Special education for the '80s. St. Louis: C. V. Mosby, 1980.

Gershman, J. A follow-up study of graduates of the perceptual and behavioral special classes. Toronto, Ontario: Board of Education, Research Department, 1976. (ERIC Document Reproduction Services No. ED 135 169)

Gordon, M. M. Social class in American sociology. Durham, NC: Duke University Press, 1958.

Gottesman, R. L. Follow-up of learning disabled children. Learning Disability Quarterly, 1979, 2, 60-69.

Gottesman, R. L., Belmont, I., & Kaminer, R. Admission and follow-up status of reading disabled children referred to a medical clinic. Journal of Learning Disabilities, 1975, 8, 642-650.

Haer, J. L. The predictive utility of five indices of social stratification. American Sociological Review, 1957, 22, 54-56.

Hair, J. F., Anderson, R. E., Tatham, R. L., & Grablowsky, B. J. Multivariate data analysis. Tulsa, OK: Petroleum Publishing, 1979.

Hammill, D. D., Leigh, J. E., McNutt, G., & Larsen, S. C. A new definition of learning disabilities. Learning Disability Quarterly, 1981, 4, 336-342.

Hardy, M. E. Disabled readers: What happens to them after elementary school? Canadian Education Research Digest, 1968, 8, 338-346.

Hect, K. Teacher ratings of potential dropouts and academically gifted children: Are they related? Journal of Teacher Education, 1975, 26, 172-175.

Herjanic, B. M., & Penick, E. C. Adult outcome of disabled readers. Journal of Special Education, 1972, 6, 397-410.

Hiebert, B., Wong, B., & Hunter, M. Affective influences on learning disabled adolescents. Learning Disability Quarterly, 1982, 5, 334-343.

Hoch, O. The dropout syndrome. High School Journal, 1965, 49, 98-106.

Horn, W. F., O'Donnell, J. P., & Vitulano, L. A. Long-term follow-up studies of learning-disabled persons. Journal of Learning Disabilities, 1983, 16, 542-555.

essy, H. R., & Cohen, A. H. Hyperkinetic behaviors and learning disabilities followed over seven years. Pediatrics, 1976, 57, 4-10.

Hunter, E. J., & Lewis, H. M. The dyslexic child--two years later. Journal of Psychology, 1973, 83, 163-170.

Jennrich, R., & Sampson, P. P7M: Stepwise discriminant analysis. In W. J. Dixon (Ed.), BMDP statistical software. Berkeley, CA: University of California Press, 1981.

Johnson, D., & Myklebust, H. Learning disabilities; Educational principles and practices. New York: Grune & Stratton, 1967.

Johnson, D. J., Blalock, J. W., & Nesbitt, J. A. Adolescents with learning disabilities: Perspectives from an educational clinic. In D. Carofano (Ed.), Learning disabilities: A reference book. Guilford, CT: Special Learning, 1980. (Reprinted from Learning Disability Quarterly, 1978, 1, 24-36.)

Klecka, W. R. Discriminant analysis. In N. H. Nie, C. H. Hull, J. G. Jenkins, K. Steinbrenner, & D. H. Bent (Eds.), Statistical package for the social sciences (2nd ed.). New York: McGraw-Hill, 1975.

Koppitz, E. M. Children with learning disabilities: A five year followup study. New York: Grune & Stratton, 1971.

Leone, P. E., Lovitt, T. C., & Hansen, C. L. A descriptive follow-up study of learning disabled boys. Learning Disability Quarterly, 1981, 4, 152-162.

Lloyd, D. N., & Bleach, G. Prediction of high school dropout or graduation from third-grade data. Bethesda, MD: National Institute of Mental Health, Department of Health, Education, and Welfare, Mental Health Study Center, 1972. (ERIC Document Reproduction Service No. ED 085 623)

Marsh, G. F., Gearheart, C. K., & Gearheart, B. R. The learning disabled adolescent: Program alternatives in the secondary school. St. Louis: C. V. Mosby, 1978.

Menkes, M. M., Rowe, J. S., & Menkes, J. H. A twenty-five year follow-up study on the hyperkinetic child with minimal brain dysfunction. Pediatrics, 1967, 39, 393-399.

Muehl, S., & Forell, E. R. A followup study of disabled readers: Variables related to high school performance. Reading Research Quarterly, 1973-74, 9, 110-122.

Neisser, E. G. School failures and dropouts. New York: American Personnel and Guidance Association, 1963.

Newman, A. P. Later achievement study of pupils underachieving in reading in first grade. Reading Research Quarterly, 1972, 7, 477-508.

Nie, N. H., Hull, C. H., Jenkins, J. G., Steinbrenner, K., & Bent, D. H. (Eds.). Statistical package for the social sciences (2nd ed.). New York: McGraw-Hill, 1975.

Nuttall, E. V., Nuttall, R. L., Polit, D., & Hunter, J. B. The effects of family size, birth order, sibling separation, and crowding on the academic achievement of boys and girls. American Educational Research Journal, 1976, 13, 217-233.

Patton, J. R., & Polloway, E. A. The learning disabled: The adult years. Topics in Learning and Learning Disabilities, 1982, 2, 79-87.

Peatman, J. G., & Schafer, R. A table of random numbers from selective service numbers. Journal of Psychology, 1942, 14, 296-297.

Penty, R. C. Reading ability and high school dropouts. Educational Digest, 1960, 25(5), 1-4.

Peterson, A. C., & Kellam, S. G. Longitudinal predictors of achievement: Achievement history, family environment, and mental health. Paper presented at the annual meeting of the American Educational Research Association, New York, April 6, 1977. (ERIC Document Reproduction Service No. ED 139 866)

Poplin, M. S. The severely learning disabled: Neglected or forgotten. Learning Disability Quarterly, 1981, 4, 330-335.

Poremba, C. D. Learning disabilities, youth, and delinquency: Programs for intervention. In H. Myklebust (Ed.), Progress in learning disabilities (Vol. 3). New York: Grune and Stratton, 1975.

Rawson, M. B. Developmental language disability: Adult accomplishments of dyslexic boys. Baltimore, MD: Johns Hopkins Press, 1968.

Robinson, H. M., & Smith, H. K. Reading clinic clients--ten years after. Elementary School Journal, 1962, 63, 22-27.

Robinson, J. P., Athanasiou, R., & Head, K. B. Measure of occupational attitudes and occupational characteristics. Ann Arbor, MI: University of Michigan Institute of Social Research, Survey Research Center, 1969.

Sattler, J. M. Assessment of children's intelligence and special abilities (2nd ed.). Boston: Allyn & Bacon, 1982.

Silber, C. L. Academic and behavioral characteristics of successful versus non-successful learning disabled students. Unpublished doctoral dissertation, North Carolina State University at Raleigh, 1978. (ERIC Document Reproduction Service No. ED 161 015)

Silberberg, N. E., & Silberberg, M. C. The bookless curriculum: An educational alternative. Journal of Learning Disabilities, 1969, 2, 302-307. (a)

Silberberg, N. E., & Silberberg, M. C. Myths in remedial education. Journal of Learning Disabilities, 1969, 2, 209-217. (b)

Silver, A. A., & Hagin, R. A. Specific reading disability: Follow-up studies. American Journal of Orthopsychiatry, 1964, 34, 95-102.

Smith, M. D., Coleman, J. M., Dokecki, P. R., & Davis, E. E. Intellectual characteristics of school labeled learning disabled children. Exceptional Children, 1977, 43, 352-357.

Spencer, E. C. An analysis of the dropout problem in Norfolk secondary schools. Norfolk, VA: Norfolk Board of Education, 1977. (ERIC Document Reproduction Service No. ED 151 461)

Stoller, D. S. A study of longitudinal patterns of failure among high school dropouts and poorly performing graduates. Washington, DC: National Center for Educational Statistics, Department of Health, Education, and Welfare, 1967. (ERIC Document Reproduction Service No. ED 012 486)

Stuit, D. B., Dickson, G. S., Jordan, T. F., & Schloerb, L. Predicting success in professional schools. Menasha, WI: George Banta, 1949.

Torgeson, J. K. The role of nonspecific factors in the task performance of learning disabled children: A theoretical assessment. Journal of Learning Disabilities, 1977, 10, 27-34.

Torgeson, J. K. Conceptual and educational implications of the use of efficient task strategies by learning disabled children. Journal of Learning Disabilities, 1980, 13, 19-26.

Touzel, S. W. Secondary LD curricula--a proposed framework. Learning Disability Quarterly, 1978, 1, 53-61.

Trites, R. L., & Fiedorowicz, C. Follow-up study of children with specific (or primary) reading disability. In R. M. Knights & D. J. Bakker (Eds.), The neuropsychology of learning disorders: Theoretical approaches. Baltimore, MD: University Park, 1976.

Tseng, M. S. Comparison of selected familial, personality, and vocational variables of high school students and dropouts. Journal of Educational Research, 1972, 65, 462-466.

United States Department of Commerce. Standard occupational classification manual. Washington, DC: U.S. Government Printing Office, 1980.

Voss, H. L., Wendling, A., & Elliott, D. S. Some types of high school dropouts. Journal of Educational Research, 1966, 59, 363-368.

Warner, W. L., Meeker, M., & Eells, K. Social class in America. Chicago: Science Research Associates, 1949.

Warner, W. L , Meeker, M., & Eells, K. Social class in America (Rev. ed.). New York: Harper & Row, 1960.

Werner, E. E., & Smith, R. S. Vulnerable but invincible: A longitudinal study of resilient children and youth. New York: McGraw-Hill, 1982.

White, W. J., Schumaker, J. B., Warner, M. W., Alley, G. R., & Deshler, D. D. The current status of young adults identified as learning disabled during their school career (Research Report No. 21). Lawrence, KS: University of Kansas, Institute for Research in Learning Disabilities, 1980.

Williams, B. R. What do we really know about high school dropouts? Journal of Secondary Education, 1966, 41, 277-284.

APPENDIX A

LETTER OF COOPERATION

LAUDERDALE COUNTY BOARD OF EDUCATION

Middle Road — P.O. Box 278
FLORENCE, ALABAMA 35631
Phone 764-8321

September 10, 1982

Dr. W. Donald Crump
Area of Special Education
Program in Learning Disabilities
University of Alabama
Tuscaloosa, Alabama

Dear Dr. Crump:

We have received the proposal to conduct a post-school follow up study of persons who were enrolled in learning disabilities classes from 1974 to 1981.

We shall gladly cooperate with Mr. Richard Cobb, the principal investigator in conducting this study. We would like very much to receive the results of this study when they become available in order to help plan for future programs. At present, we have no data available from which we can predict the long range success or failure of our learning disabilities program.

We are appreciative of what the Special Education Department in the University of Alabama offers to the public school systems across the state. If we can be of any assistance in this work study, please feel free to contact us.

Sincerely,

Willa Jean Cagle

(Mrs.) Willa Jean Cagle
Special Education Coordinator

APPROVED:

Dr. Osbie J. Linville,
Superintendent of Education

APPENDIX B

DATA COLLECTION FORM--INTERVIEW

ID # _____ DATE _____

1. How often do you have difficulty with the reading you do on your job and in your other daily activities?

   (1) Always (2) Frequently (3) Occasionally (4) Seldom (5) Never

2. Describe all the jobs you have had since leaving the school.

   Job (Describe) How long held (Duration) Salary per week

3. Rate your satisfaction with your present employment situation

   (1) Either unemployed or employed but dislike the job very much
   (2) Employed but dislike the job slightly
   (3) Employed but job is only adequate
   (4) Employed and like job somewhat
   (5) Employed and like job very much

4. How many semesters of vocational school or college have you had since high school?

   (____)College Semesters_____ (____)Vocational Semesters_____

5. What part of your total income was contributed by your parents last year?

   (1) 80-100% (2) 60-80% (3) 40-60% (4) 20-40% (5) 0-20%

6. How often do you seek help from your parents in making decisions and solving problems?

   (1) Every time (2) Fairly frequently (3) Occasionally (4) Seldom
   (5) Never

7. Are you or have you ever been married? ( ) Yes ( )No ( ) Divorced

   How many years of school spouse complete? _____

   What was your parent(s)-in-law's occupation?_____ _____

8. How well do you feel that your high school education prepared you to cope with the problems of everyday living?

   Regular classes:
   (1) Not at all (2) Poorly (3) Just adequately (4) Fairly well
   (5) Very well

   Learning Disabilities classes:
   (1) Not at all (2) Poorly (3) Just adequately (4) Fairly well
   (5) Very well

Vocational classes:
(1) Not at all (2) Poorly (3) Just adequately (4) Fairly well

(5) Very well

9. Did you graduate from high school?

( ) Yes ( ) No

If yes, year?_____ School?_____

If no, school?_____ Year?_____ Grade?_____

10. Have you ever been arrested since high school?

(1) Arrested, convicted, served sentence

(2) Arrested, convicted, fine or probation only

(3) Arrested, not convicted

(4) Never arrested, but have had over five traffic tickets (Not parking tickets)

(5) Never arrested and fewer than five traffic tickets

POTENTIALLY AVAILABLE DATA

1. Thinking back to your high school days, how many of your five closest friends dropped out of school?

2. How many of your brothers or sisters had already dropped out while you were in high school?

(Note: add 1 + 2 above = _____

3. How many years of school did your mother complete? _____

4. How many years of school did your father complete? _____

Note: take mean of 3 and 4 above and = _____

5. How many others including sisters, brothers or parents in your family experienced problems learning in school? _____ In LD?_____

6. While you were in school how many hours per week did you average working on a job? _____

APPENDIX C

DATA COLLECTION FORM--PERMANENT RECORD

Permanent Record Data Collection Form

(Id. Number) (Placement date/grade) (D.O.B.)

(No. Siblings) (No. grade- retentions in)

(No. yrs in L.D.)

Reading & Language
(CAT deficit at time of placement)
Spelling Math Total

(Parental occupation information)

(No, parents in home)

Ab. + tardy = Pre.
(Attendance)
Ab. + tardy = Post

Grades Pre-placement	Grades Post placement	Credits earned per year
Year 1 1. Eng. ____ 2. S.S. ____ 3. Math ____ 4. Sci. ____ 5. ____ ____ 6. ____ ____ Tot. ____	Year 1 1. Eng. ____ 2. S.S. ____ 3. Math ____ 4. Sci. ____ 5. ____ ____ 6. ____ ____ Tot. ____	9th ____ 10th ____ 11th ____ 12th ____ Total sem. vocational education ____
Year 2 1. Eng. ____ 2. S.S. ____ 3. Math ____ 4. Sci. ____ 5. ____ ____ 6. ____ ____ Tot. ____	Year 2 1. Eng. ____ 2. S.S. ____ 3. Math ____ 4. Sci. ____ 5. ____ ____ 6. ____ ____ Tot. ____	
WISC-R scores ____ VIQ ____ PIQ ____ FSIQ ____ Date Tr.	Chron. age @ Placement ____ Behavior cited on referral ____ Yes___ NO ___	

APPENDIX D

LETTERS TO PROSPECTIVE SAMPLE MEMBERS

Brooks High School
Office of the Principal
Killen, Alabama 35645
Telephone 205-757-3115

HARLON HILL, PRINCIPAL
JOHNNY JOHNSTON, ASST. PRINCIPAL
SAYLIA TAYE, SECRETARY
RUTH DOWNS, SECRETARY

March 23, 1983

Dear Parents:

As a part of a graduate project for a course of study I am taking at the University of Alabama, I am trying to find out what has happened to some selected students who have gone to school in Lauderdale County in the last five years.

Thus far, I have not been able to find an address for _____. I would appreciate it very much if you would write his/her address on the enclosed stamped, addressed envelop and drop it in the mail to me.

The goal of this project is to determine how well the Lauderdale County School System is meeting the needs of its students.

Thank you for your help.

Sincerely yours,

Richard M. Cobb

Richard M. Cobb
Special Education Teacher

rlh/RMC
Enclosure

Richard M. Cobb
503 Malone Circle
Florence, Alabama 35630

Dear Parents:

I am now conducting a follow-up study of persons who were at one time enrolled in Lauderdale County Schools. I am a learning disabilities teacher at Brooks High School and also a candidate for the doctoral degree at the University of Alabama; this study is to be my dissertation research project and is sponsored by a grant from the U.S. Department of Education.

Records of the Lauderdale County School System, which has been cooperating in my study, indicate that _____ was once in the system. The above named student may or may not have been in a learning disabilities class while in school. In either case I would very much like to interview this former student which I have been unable to find so far.

All information which I get from those I interview is held strictly confidential and all information will be put in my report by code number - no names will ever be released to the University of Alabama or any other agency or person. Questions in the interview deal with present occupation, feelings about the quality of education received in the Lauderdale County Schools, and benefits received from a learning disabilities (LD) class, if they were in one.

If the former student named above still lives in Northwest Alabama, please have him/her call me, or you yourself call me to discuss an appointment. I can be reached at 764-8811, and I have an answering machine where you may leave a message if I am not at home.

If you have any questions about the genuineness of this study, please call Dean W. Donald Crump in Tuscaloosa at 348-6050, or call Dr. Osbie J. Linville, the County Superintendent at 764-8321 or Mrs. Willa Jean Cagle, Director of Special Education at the same number.

Please help me with this important research by calling, even if it is only to tell me that your son or daughter no longer lives in the area.

Sincerely,

Richard M. Cobb

Richard M. Cobb
Learning Disabilities Teacher
Lauderdale County Schools

Research Assistant
University of Alabama

APPENDIX E

AUTHORIZATION FORM

THE UNIVERSITY OF ALABAMA
UNIVERSITY, ALABAMA 35486

COLLEGE OF EDUCATION
AREA OF SPECIAL EDUCATION

P. O. BOX 2992

September 10, 1982

PROGRAMS IN:
MENTAL RETARDATION
EMOTIONAL CONFLICT
MULTIHANDICAPPED
DEAF EDUCATION
LEARNING DISABILITIES
DIAGNOSTICIAN TRAINING
SPECIAL EDUCATION ADMINISTRATION
INTERRELATED PROGRAMS

Mr. Richard Cobb
Research Assistant
Area of Special Education
Box 2592
University of Alabama
University, AL 35486

Dear Mr. Cobb:

I have been adequately informed about the purposes and procedures of the follow-up study of the Learning Disabilities Program in Lauderdale County Schools. I understand that all information will be coded by identification numbers and that information will be reported as group data. My signature at the bottom of this letter indicates my agreement to participate or to not participate.

Sincerely,

Name of Former Student

I agree to participate _____
(signature)

I do not agree to participate _____
(signature)

APPENDIX F

COMPUTING THE ISC FROM THE CRITERIA OF WARNER, MEEKER, & EELLS (1960)

Computing the ISC from the Criteria of Warner, Meeker, & Eells (1960)

Ratings for each of four status characteristics must be determined and mutliplied by a given weighting factor. The four status characteristics and their weights are: (a) occupation (weight 4), (b) source of income (weight 3), (c) house type (weight 3), and (d) dwelling area (weight 2). To determine an ISC score, the weighted ratings of all status characteristics are summed.

The status characteristic "Occupation" is rated according to a 1 to 7 scale, as are all four status characteristics. Some examples of occupations assigned to each rating are:

1. Professionals with graduate degrees, owners of businesses valued at $75,000 or more, regional and divisional managers of large companies, certified public accountants and gentlemen farmers.

2. Professionals with college degrees, owners of businesses valued at $20,000 to $75,000, assistant managers of large concerns, real estate and insurance salesmen, and owners of large farms.

3. Social workers, owners of businesses values at $5,000 to $20,000, minor business officials, auto salesmen, and contractors.

4. Owners of businesses valued at $2,000 to $5,000, bookkeepers, factory foremen, self-employed tradesmen, and dry cleaners.

5. Owners of businesses valued at $500 to $2,000, store clerks, tradesmen, firemen, and tenant farmers.

6. Owners of businesses valued at less than $500, semiskilled workers, truck drivers, baggage handlers, and waitresses.

7. Heavy laborers, migrant farm workers, miners, odd-job men, and janitors.

The criteria for assigning ratings for the status characteristic "Source of Income" include:

1. Inherited wealth--"Old Money."

2. Earned wealth. Persons who are wealthy enough so that they no longer need to work.

3. Profits and fees. Money paid to professional men; business profits for small businesses.

4. Salary. Monthly or yearly wages; commission from sales.

5. Wages. Pay based on hourly rates.

6. Private relief. Money given by relatives or charities.

7. Public relief and nonrespectable income. Welfare; illegal incomes.

The criteria for assigning ratings for the status characteristic "House Type" include:

1. Excellent houses. Large homes with well-kept landscaped lawns.

2. Very good houses. Larger than necessary, but smaller than excellent houses.

3. Good houses. Slightly larger than necessary, well kept.

4. Average houses. Wood or brick, one or two story, one-family dwellings without landscaped lawns.

5. Fair houses. Smaller houses in excellent condition and larger houses less well cared for than those rated 4.

6. Poor houses. Repairable, but badly run-down houses.

7. Very poor houses. Houses which have deteriorated beyond repair; unhealthy or unsafe, with littered yards.

The criteria for assigning ratings for the status characteristic "Dwelling Area" include:

1. Very high. The single-best neighborhood, containing very large homes occupied primarily by "old money."

2. High. Well above average and only slightly less desirable than the best neighborhood.

3. Above average. Nice but not pretentious homes.

4. Average. Workers' homes, small, but neat. The area is respectable but not especially desirable.

5. Below Average. Undesirable area; may be close to plants or railroads. People who live there are thought to be uncaring about the condition of their homes.

6. Low. Rundown, semislum areas. Litter is prevalent.

7. Very low. Slum districts with the poorest reputation in town. Social stigma accompanies residence in these areas.

Social-class equivalents for given ISC rating totals are:

12-17	Upper class
18-22	Upper class probably, possibility of upper-middle class
23-24	Indeterminate; either upper class or upper-middle class
25-33	Upper-middle class
34-37	Indeterminate; either upper-middle or lower-middle class
38-50	Lower-middle class
51-53	Indeterminate; either lower-middle or upper-lower class
54-62	Upper-lower class
63-66	Indeterminate; either upper-lower or lower-lower class
67-69	Lower-lower class probably, possibility of upper-lower class
70-84	Lower-lower class

Thus, a family which earned an "Occupation" rating of 3, a "Source of Income" rating of 5, a "House Type" rating of 4, and a "Dwelling Area" rating of 4 would score (3 x 4) + (5 x 3) + (4 x 3) + (4 x 2) or a total of 47. The equivalent social class would be lower-middle class. Persons wishing to use the ISC should consult Warner et al. (1960, Chapter 9).

APPENDIX G

LETTER FROM DIRECTOR OF GUIDANCE AND COUNSELING

LAUDERDALE COUNTY BOARD OF EDUCATION

Middle Road — P.O. Box 278
FLORENCE, ALABAMA 35631
Phone 764-8321

MEMORANDUM

TO: ALL PRINCIPALS & HIGH SCHOOL COUNSELORS

FROM: MIKE HERSTON, DIRECTOR OF GUIDANCE & COUNSELING

DATE: MAY 25, 1983

SUBJECT: FOLLOW-UP STUDY OF LEARNING DISABLED STUDENTS

Mr. Richard Cobb, Learning Disabilities teacher at Brooks High School, is currently a candidate for the doctoral degree at the University of Alabama. His dissertation is a follow-up study of learning disabled students who were enrolled several years ago in the Lauderdale County Schools. In order to gather part of the data, it will be necessary for Mr. Cobb to have access to the permanent record folder of each of the 100 former students. All data obtained from these files will be held strictly confidential and once the information is copied down, the person will be identified only by a number.

Dr. Linville and Mrs. Cagle have already pledged their support (see attached letter) and all data available at the Central Office has been provided. I urge you to provide access to this information and help him in this worthwhile project.

Mr. Cobb will be visiting each school this summer and he will try to get to your school while the counselors are still in school working. The paper which he will write will be shared with the Lauderdale County Schools in an effort to improve our knowledge of and service to the Learning Disabilities students of Lauderdale County.

MH/tdm